STATE OF IOWA

Department of Administrative Services - Information Technology Enterprise

2005 Business Plan

February, 2005

Information Technology Enterprise
2005 Business Plan

Department of Administrative Services
Information Technology Enterprise

Table of Contents

Index of Tables and Figures

DAS Mission and Executive Summary

Mission: "To provide high quality, affordable information technology products and services to Iowa state government customers in a manner that empowers them to provide better service to the citizens of Iowa and support the State of Iowa in achieving economic growth."

In FY05, the Information Technology Enterprise (ITE) will be operating under an entrepreneurial management business model for its second year. In FY04, ITE took steps to establish effective internal business processes and a more secure, stable information technology infrastructure. ITE's improved operations, attributable to the efforts of a qualified, dedicated staff and a comprehensive business review process, and its' substantial reduction in billable rates, has not gone unnoticed by our customers. ITE has taken steps to eliminate the legacy backlog of service commitments (both funded and unfunded) and has increased the customer base in the past year.

Current National Trends in Information Technology in State Government

According to the National Governor's Association - Center for Best Practices, the following is the list of top information technology trends in state government and information on what the State of Iowa is doing in relation to them:

- **Consolidation across departmental lines of infrastructure and related services.** *The creation of the Iowa Communications Network put statewide communications on common infrastructure. The Information Technology Enterprise and its predecessor organizations have provided common computing and data storage infrastructure for over three decades.*
- **Implementation of a single electronic "front door" for the state (a state portal).** *IowAccess (www.Iowa.gov) has been the State of Iowa's front door since 1998.*
- **Getting better control over telecommunications costs.** *In order to get better control of telecommunication costs, a user's group comprised of representatives from state agencies and all three branches of government created the Iowa Telecommunications Network* (ITN) *in 1986. In 1989, this group was replaced by the Iowa Communications Network (ICN), created to ensure that the communications of state government be coordinated to effect maximum practical consolidation and joint use of communications services.*
- **Integrating the public health security functions with the traditional public safety functions for Homeland Security.** *The Iowa Department of Public Health's Center for Disaster Operations and Response (CDOR) is responsible for the development and implementation of emergency response plans and operating procedures for the department while ensuring integration into Iowa's Homeland Security and Emergency Plan. Additionally, CDOR is responsible for the department's Emergency Coordination Center (EOC), Continuity of Operation's Plan, Iowa Disaster Medical Assistance Teams (IA-DMAT), the Strategic National Stockpile (SNS) and the Health Alert Network (HAN) system. CDOR provides the*

management and oversight for Iowa's public health and hospital bioterrorism program.

- **Developing enterprise blueprints for how IT systems will work in state operations.** *The Information Technology Enterprise and its predecessor organizations have provided leadership and direction for enterprise information technology architecture initiatives for over twenty-five years.*
- **Implementing statewide enterprise administrative systems (e.g., budget, human resources, procurement, etc).** *Integrated Information for Iowa (I/3) is a system of integrated, multi-module software applications designed to serve and support the budget, finance, procurement, data warehouse, human resources/payroll functions in state government.*
- **Implementing solutions across boundaries (e.g., Homeland Security, criminal justice, etc).** *ITE assumed a leadership role in developing a Criminal Justice information integration program and a governance council to foster ongoing cooperation and collaboration between all parties involved with criminal justice in state and local government. ITE also provides ongoing technical support and assistance to the Office of Homeland Security and Emergency Management.*
- **Contracting with the private sector for IT solutions and ongoing support.** *ITE contracts with private sector vendors for leading edge and best of breed solutions and to provide mentoring for state employee staff members.*
- **Using state IT resources in support of other levels of government.** *ITE has provided support and expertise to county governments, through the Iowa State Association of Counties, to assist them with the development and implementation of compliant Health Insurance Portability and Accountability Act (HIPAA) privacy and security programs.*
- **Using IT as an integral part of reengineering the business processes of government for greater efficiency and lower costs.** *The Department of Administrative Services is reengineering financial and management functions to take advantage of the efficiencies of an automated, consolidated billing system and improved management reports.*
- **Demanding interoperability for government communication systems.** *The demand for increased interoperability is the driver for the adoption of enterprise information technology standards and information technology procurement reviews and approvals that have been in place since 2000.*
- **Integrating existing legacy databases and systems.** *The Iowa Criminal Justice Information Systems Integration project is an excellent example of executive branch agencies and branches of government (Executive and Judicial) collaborating to improve services to Iowans.*
- **Creating integrated financial, operating, and performance systems.** *The Integrated Information for Iowa (I/3) project is integrating the budget, finance, procurement, and human resources/payroll functions under one umbrella project. By integrating these functions with a highly functional data warehouse, government administrators will be able to exercise much better control over the operation of state government.*

- **Calculating IT returns on investment**. *The State of Iowa's award winning Return on Investment program, used to assess and prioritize information technology investments projects and investments, is now in its fifth year of operation*
- **Establishing performance accountability measures for IT solutions.** *ITE has adopted a project management methodology and business model requiring clearly written and mutually agreed upon functional and operational specifications*
- **Creating private and inter- and intra-governmental partnerships.** *The Governor's Alliance for Advanced Telecommunications Services (AATS) is a partnership of private sector telecommunications companies, state government, and private citizens created to improve access to broadband and other state-of-the-art telecommunications services for Iowa's citizens. AATS was formed in 1998 and remains active, working with staff support from the Iowa Department of Economic Development.*

Source of Trends: National Governor's Association – Center for Best Practices

"While many states are applying recent innovations in information technology to make government more accessible, cost-effective, and responsive to citizen needs, there remains a concern that they may be using information technology to simply automate existing practices. Automating existing functions may offer limited efficiency improvements, but the real challenge for Governors is to use information technology to implement change across the state enterprise based on a thorough examination of business cases and desired outcomes."

- National Governor's Association, Center for Best Practices

Public Expectations for Information Technology in State Government

The following is a list of current trends in public expectations that directly impact the leadership, management and operation of IT in state government:

- The public wants improved and more widely accessible governmental services. Most citizens expect more for less in many of their consumer and business purchases - they have similar expectations for government services.
- The public expects state government to be continually more efficient in using its resources. Media stories about inefficiency in government produce anger and anxiety among taxpayers who already generally mistrust government.
- There is an increasing expectation that technology is a magic bullet that can cut costs and lower taxes. That expectation puts a heightened burden on CIOs to be accountable and responsible in their use of public funds.
- The public does not expect or want tax increases.

- The public is demanding easier and quicker access to information and more direct contact with officials in all branches of government through email and web sites. There is a growing expectation for more, not less, of this interactive environment.
- The public wants to be assured that vital community and state resources are secure. The post September 11, 2001 environment has produced serious concerns for the security of water, power, telecommunications, transportation, and food resources essential to a community's economic and physical well being. State government plays an important role in assuring that these critical infrastructures are adequately protected.

> *The challenge of being a state CIO is not for the faint-hearted. Today's government environment is characterized by an infinite need for services constrained by a finite set of resources.*
>
> - National Governor's Association, Center for Best Practices, CIO Transition Manual

- The public wants to be assured that their personal data is secure and protected. Personal privacy issues are heightened due to the threat of data and information sharing and outright theft. This is an area that challenges government policy-makers who are required to balance privacy issues with the public's desire for transparency in government.

Source: National Governor's Association – Center for Best Practices

Information Technology Enterprise Core Functions

The core function of the Information Technology Enterprise (ITE) is to provide high-quality, customer-focused information technology services and business solutions to government and to citizens. Pursuant to Iowa Code Section 8A.202(3), ITE is to:

a. Coordinate the activities of the department in promoting, integrating, and supporting information technology in all business aspects of state government.

b. Provide for server systems, including mainframe and other server operations, desktop support, and applications integration.

c. Provide applications development, support, and training, and advice and assistance in developing and supporting business applications throughout state government.

Business Assumptions

As we formulate tactical and strategic plans and conduct business, the Information Technology Enterprise will operate under the following assumptions:

- Technology is a tool and like any tool it can be used effectively to achieve a public organization's mission and goals.

- Service and information will be the primary focus for users; the perception of government is measured by its' ability to deliver service. At the same time, the need for security, privacy, and accessibility will continue to be a priority for users.
- Mobile computing will accelerate dramatically through the use of integrated computing devices; Web technology is the primary delivery mechanism for mobile devices.
- The continued shift from legacy systems/client servers to an e-Government network-centric computing environment will allow state government to be proactive rather than reactive, service aware instead of environment aware, and, most important, customer-focused rather than IT focused.
- The costs of computing resources will continue to decline; while human resources costs will continue to escalate.
- The availability of network bandwidth will continue to increase, thus allowing Internet-based services and information to be provided in a timelier and more convenient manner to government's constituents.

Associating Private Sector and Public Sector Performance Metrics[1]

In assessing the success of our "business" inside government, we must use a different set of goals and measures that those used in the private sector. The goals and objectives of government differ from that of the private sector and it is important to understand those differences. (See Table 1)

Table 1. Associating Private Sector Performance Metrics to Performance in the Public Sector[1]

Strategic Feature	Private Sector	Public Sector
General Strategic Goal	Competitiveness	Mission Effectiveness
General Financial Goals	Profit; Growth; Market Share	Cost Reduction; Efficiency
Values	Innovation; Creativity; Good Will; Recognition	Accountability To Public; Integrity; Fairness
Desired Outcome	Customer Satisfaction	Customer Satisfaction
Stakeholders	Stockholders; Owners; Market	Taxpayers; Auditors; Legislators
Budget Priorities Defined By:	Customer Demand	Leadership; Legislators; Planners
Justification For Secrecy	Protection Of Intellectual Capital; Proprietary Knowledge	Privacy Laws, Security
Key Success Factors	Growth Rate; Earnings; Market Share	Best Management Practices
	Uniqueness, Product Differentiation	Sameness; Economies Of Scale
	Advanced Technology	Standardized Technology

[1] From the Balanced Scorecard Institute, http://www.balancedscorecard.org/

This table illustrates the often significant differences between public and private-sector organizations. The only clear similarity between the two is in the desire for "customer satisfaction", but even with this desired outcome there is a difference, primarily because the definition of "customer" is different in the two cases. This table illustrates the necessity for significant revision or 'translation' of much of the private-sector focused guidance commonly available for implementing government performance metrics and other strategic planning efforts.

All governmental agencies exist not for profit but to fulfill their charter or mission, which is an inherently governmental function. Government agencies have authority to conduct the mission that is delegated either by legislative intent or by Executive Order.

The key metric for government performance, therefore, is not financial in nature, but rather *mission effectiveness.* Mission effectiveness, however, is not definite and static. Usually, an agency has a rather broad general mission, which incorporates many specific sub-missions or departmental missions within it. At any given time, some departmental missions may be more important than others for the needs of the state. The selection of the departmental mission priorities is an ongoing strategic planning responsibility.

Criteria or metrics for government performance can be broken down into the following three categories:

1. Strategic need (current and in the foreseeable future).
2. Mission-specific effectiveness metrics (uniqueness and viability).
3. Generic efficiency metrics (metrics that are common to any number of organizations and allow for comparisons between organizations).

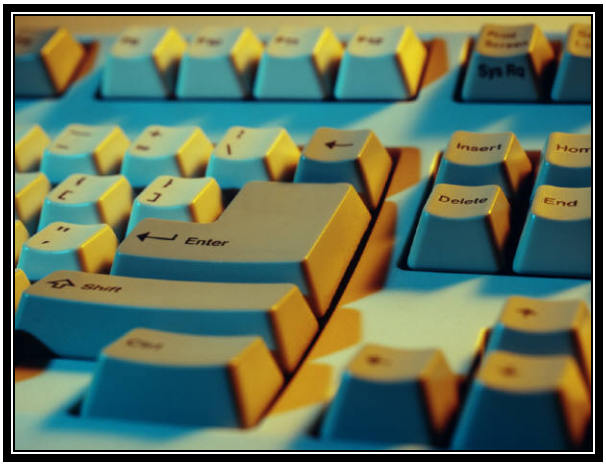
The Information Technology Enterprise At A Glance

The Information Technology Enterprise:

- **Provides** ongoing support for the development, implementation, and operation of “Integrated Information for Iowa” (I/3), Iowa’s new web-based financial management and enterprise resource planning system. I/3 includes modules for Budgeting, Financial Management, Human Resources, and Purchasing. I/3 includes many new features designed to reduce the burden and improve the accuracy of managing Agency budgets. I/3 replaces several existing mainframe systems, most notably the Iowa Financial Accounting System (IFAS) and the Human Resource Information System (HRIS), both of which were designed and implemented over 20 years ago.
- **Supports** more than 1,075 e-mail accounts for 20 state agencies, boards and commissions.
- **Directly supports** more than 1,000 desktop computer systems in 38 state agencies, boards and commissions; with on-call support for the remaining 18,000 executive branch desktop computers.
- **Manages** the official State of Iowa web portal, processing 4 million Internet page views per month.

- **Supports** the Judicial Branch Iowa Court Information Systems (ICIS) electronic public access to the online court application which averages 6.5 million page views per month.
- **Operates** the ITE mainframe data center that processes in excess of three and one-half million online business transactions each business day, prints over three and one-half million lines of print (licenses, permits, and reports) and an average of eight thousand state warrants each business day (two million state warrants annually).
- **Performs** daily information network security scans using a state-of-the-art intrusion detection system. This system scans hundreds of devices and successfully blocks as many as 400,000 external scans and detected intrusion attempts weekly.
- **Managed** a joint project of the executive and judicial branches of state government to design, develop, and implement a statewide integrated criminal justice information system that is dramatically improving communications within the criminal justice community.
- **Collaborates** with the Iowa Department of Education, Iowa Public Television, the Iowa Area Education Agencies, the Iowa State Library, and the Iowa Communication Network to create the Iowa Learning Online portal. This is the evolution of the 21st Century Learning Infrastructure pilot project and will be used to provide an access point for all digital education materials and incorporate online courses and professional development for K-12 education across Iowa.
- **Maintains** a project office to oversee and coordinate the implementation of the federal Health Insurance Portability and Accountability Act (HIPAA) for state government. The HIPAA Project Office has provided a point of coordination for HIPAA Policy and Procedures for the healthcare industry in Iowa and has provided extensive assistance to county governments through the Iowa State Association of Counties.

Products and Services



ITE Product and Service Overview

Entrepreneurial Management Product and Service Classifications

All ITE products and services are classified into one of three categories:

Leadership functions are areas of responsibility related to management, oversight and setting policies for DAS products and services. General Fund appropriations cover the cost of leadership services. An example is ITE security policy, which is separate from the service provision arm of ITE.

Utilities are those products and services that are most cost-effectively and/or efficiently provided to Executive Branch agencies by the DAS. The DAS director makes this annual determination in consultation with Customer Councils, with approval by the Governor. Utility rates are calculated to include direct and indirect costs of providing the service. DAS customer agencies that use the services pay the cost of utilities. Mail delivery on the Capitol Complex is an example of a DAS utility.

Marketplace products and services are those products and services that Executive Branch agencies may purchase directly from any marketplace supplier, including the DAS. DAS sets prices for marketplace services based on direct and indirect costs to provide the service and an assessment of prevailing competitive prices. DAS customer agencies that use the services pay for marketplace services. GSE Printing is an example of a marketplace product/service.

Entrepreneurial Management Product and Service Funding Sources and Oversight

Product or Service Classification	Utility Services	Marketplace Services	Leadership Services
Funding Source	Rates (charged to customers)	Fees (charged to customers)	Appropriations
Oversight	DAS Customer Council, Legislature	Customer's Purchases, Legislature	Legislature

ITE Product and Service Summary

Information Technology Enterprise	Market Place	Utility	Leadership
1. Infrastructure			
A. Security Services	X		
B. Desktop/Workstation	X		
C. Help Desk	X		
D. Networking/Communications	X		
E. Server Hosting	X		
F. Mainframe Services	X		
G. E-Mail	X		
H. Common Calendar and Directory		X	
I. Iowa Financial Accounting System (IFAS)		X	
J. Human Resource Information System (HRIS)		X	
K. Integrated Information for Iowa system (I/3)		X	
L. Public Key Infrastructure (PKI)		X	
2. Application Programming Services			
A. Mainframe Development Services	X		
B. Database Services	X		
C. Web Services	X		
3. Planning and Consultation			
A. Consultation	X		

ITE Service Management

Service management is organized along the lines of ITE's functional divisions. Each division involved with ITE service offerings has specific roles and responsibilities; however, the operational management of core ITE services is placed within the Infrastructure Services Division. The Applications Development and Digital Government Division provides computer application and programming services and the Policy and Administrative Services Division manages planning and consultation services.

In managing ITE's budget, costs are identified as Direct, Indirect or General and Administrative. ITE's budget is aligned with its' service offerings to provide better financial results management. To cost and price services, ITE uses the standardized DAS categorization as follows:

Direct Costs

- Personnel
- Support

Indirect Costs

- Personnel
- Support

General & Administrative Costs

- Leadership
- Shared Services

Direct costs are those directly attributable to a product or service. Indirect costs are those necessary to maintain ITE's ability to offer and support services in addition to administrative management costs. General and Administrative costs include ITE's leadership costs along with ITE's costs associated with centralized shared services provided by DAS core (e.g. purchasing, financial reporting).

In addition to this financial management model, ITE uses a detailed pricing model to better delineate specific line item services (e.g. Java application, web application server hosting) cost, price and infrastructure scaling based on volume. This enables ITE to specifically model line item services based on specific customer requirements and make a valid comparison of quality, service and price with external service providers.

See Appendix 2 for a profile of ITE services offered.

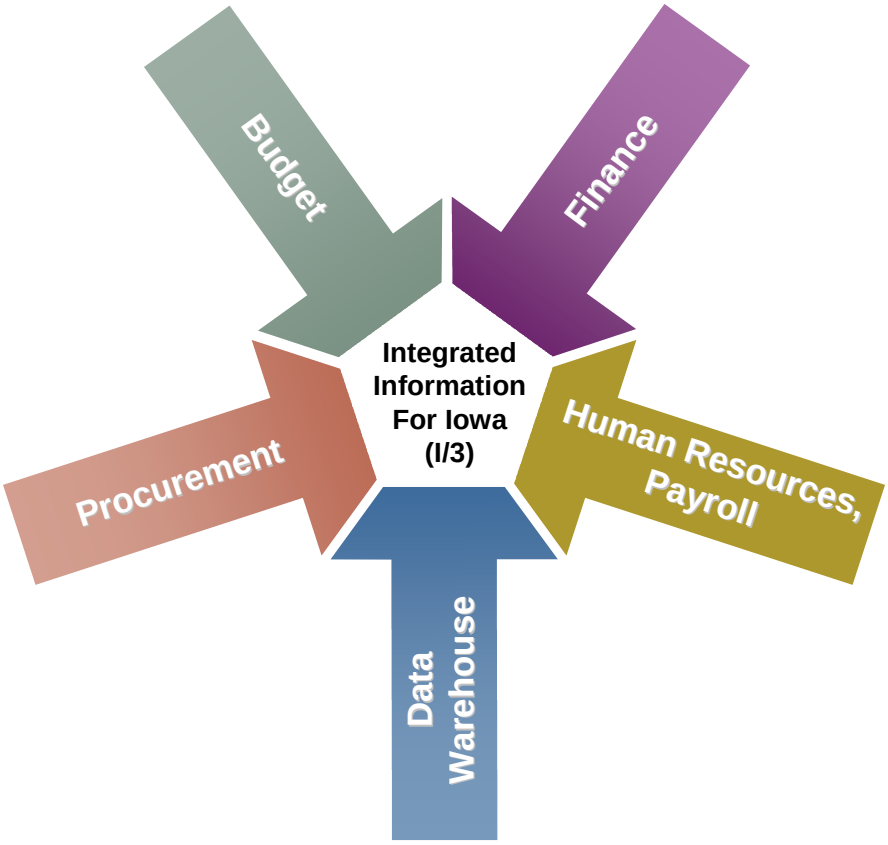
Information Technology Enterprise - Current Projects and Initiatives

Current Projects and Initiatives

DAS Integrated Information for Iowa (I/3)

I/3 is the State of Iowa's ERP system, comprised of a number of integrated, multi-module software applications that are designed to serve and support multiple business functions in state government. The major I/3 components include budget, finance, procurement, data warehouse, human resources/payroll. (See Figure 1).

Figure 1. I/3 System Components



I/3 enables state agencies to standardize business processes and more easily implement best practices. The benefits of I/3 include:

- Improving access to accurate and complete information
- Increase accountability
- Providing effective resource management
- Supporting business process redesign, eliminating paper, and saving time
- Eliminating redundant systems

As of February 1, 2005, the I/3 budget, finance, procurement and data warehouse components were operational. I/3 system availability has been improved by automating the finance nightly processing cycle. An ongoing support structure with the involvement of I/3 user groups is working to define issues and prioritize needed improvements. I/3 system administrators are working to improve customer communication and also working with the user groups to schedule changes to the system.

ITE staff monitors I/3 technical infrastructure to ensure the adequacy of the resources. A software upgrade is scheduled for the Budget/ Finance/ Procurement modules to improve their performance. An extensive system such as I/3 requires constant performance monitoring and improvement.

The Budget component of I/3 was used for the most recent budget submission. From department entries to presentation of the Governor's Budget, the FY 2006 budget was developed on I/3. While there a number of challenges in with this inaugural budget submission, changes and improvements have been implemented improve the process in future years. Additionally, work has been completed with the Legislative Services Agency (LSA) to electronically transfer budget information from I/3 to the legislative system.

The Financial component of I/3 is functional, using correct accounting entries and making vendor payments. Early issues with the stability and availability of the financial component have been addressed and it continues to improve. With assistance from the vendor (CGI-AMS), we are working to simplify the vendor setup process and to fine-tune the cost allocation and cost-accounting functions.

One critical feature of the Procurement component is Vendor Self Service (VSS). The VSS feature adds valuable automation to the state's purchasing systems. Prospective vendors can register online to become eligible vendors. They can also complete forms online, receive notifications when solicitations are issued for commodities they are interested in, and review and respond to bids and ask questions. VSS also tabulates responses to DAS-GSE Purchasing solicitations. VSS is currently on track to be online early in the second quarter of FY 2006. The I/3 staff is currently reviewing the VSS software, installing updates and testing the software. A VSS website is being designed that will include links to current contracts, bid opportunities, and payment history. Vendors are participating in the testing process and will have an opportunity to suggest improvements. Testing feedback will also be used to evaluate the system design. All current vendors will be migrated to the new system and will be trained in its use. A plan for ongoing vendor support will be developed and implemented.

The implementation of the Human Resources / Payroll component of I/3 is currently scheduled for the late fall or winter of calendar year 2005.

Funding I/3 Final Project Costs and the Utility Rate for Ongoing Support Costs

During the Development, testing, and implementation of I/3 modules will continue into FY 2006. Full ongoing project support will be in place for approximately one-half of the year. The FY 2005 appropriation for project and ongoing expenses will carry forward to cover a portion of the FY 2006 expenses. For the remainder of the expenses, a pooled technology request and innovation funds request has been made. The full support of I/3 for FY 2007 is proposed to be covered by a utility rate which will be submitted to the appropriate customer council for approval. During FY 2006, reviews must be completed to ensure that all direct costs (i.e. staff, equipment) and indirect costs related to the support of I/3 are being captured and charged to the system.

I/3 Costs and Future Funding

The State of Iowa contracted with CGI-AMS for software, services and five years of software maintenance. The original contract value was $9,447,678; as of February 1, 2005 amendments have increased that amount to $11,583,786. The appropriations for I/3 were taken from the Tobacco Settlement Funds. The time frames and amounts are contained in Table 2.

Table 2. I/3 Funding

FISCAL YEAR	PROJECT	ONGOING
FY 2003	$ 4,400,000	--
FY 2004	$ 6,131,075	--
FY 2005	$ 3,115,116	$2,934,168
Total	$13,646,191	$2,934,168

FY 2006 I/3 Funding

DAS has requested Pooled Technology Funds to cover I/3 costs in FY 2006. If the Pooled Technology request is not funded, an Innovation Fund loan will be requested. Innovation Loan funding would require DAS to increase customer rates for FY 2007 and future years to cover repayment costs of the loan. See Table 3.

Table 3. Anticipated FY 2006 Funding

ANTICIPATED FY 2006 FUNDING SOURCES	AMOUNT
Pooled Technology Request	$ 2,700,000
Revenue from customer billings	$ 2,256,773
Total	$4,956,773

Integration of "Lights-Out" and Attended Data Center Operations

By integrating "lights-out" and attended data center solutions, ITE is addressing the numerous challenges that IT administrators face in managing their complex information technology environment. Attended, in-front-of-the-server operations have become expensive, time-consuming, and inflexible, while at the same time there is a constant demand on the IT organization to maximize uptime. Some of the common problems are:

- Limited IT staff versus increasing number of deployed servers.
- Increasing number of massively distributed (enterprise-wide) deployments.
- Servers are located at different physical locations while IT groups are centralized. Customers prefer diagnose-before-dispatch.
- Customers require standard configuration/deployment/management across all servers.
- Scalability for configuration and maintenance is important to improve the overall efficiency of IT operations.
- Access and authorization to IT resources via directory services is a security requirement.
- Timeliness of response to server issues and accessibility is important.
- Cost associated with rack-based monitors, keyboards, and CD-ROM and diskette drives in every server.
- Increasing cabling complexity due to increasing server density.
- Security for servers located in remote sites and data centers is of increasing concern.
- Security exposures (removable media devices increase security risk).
- Constant need for increasing uptime/decreasing downtime.

Beginning in the third quarter of FY 2005, ITE will begin implementing N+1 data center operations and design with a combination of attended and "lights out" facilities to support 24x7 Operations.

The N+1 Data Center

When a component in a data center fails, the business of state government is at risk. An N+1 Data Center uses redundant components for key systems to protect the production environment. A review of the key components of a data center confirms an N+1 design. If electricity to the facility is cut off, uninterruptible power systems (UPS) provide continuous power to the facility. The UPS systems have more capacity than the maximum data center requirements, ensuring uninterrupted service. Within seconds, backup generators come online. Keeping systems powered is step one, but redundant heating, ventilating, and air conditioning (HVAC) systems and components are required to keep the data center environment cooled at all times. Fire suppression systems must be in place in case of emergency. Security is another key component of the

equation. The ITE data center must employ various security and surveillance measures at the perimeter and restrict access by card access systems coupled with internal security procedures to monitor and control access to the data center and its systems. Throughout FY 2006, ITE is planning to implement N+1 design elements into its' operational infrastructure.

Diverse Internet Bandwidth

Internet bandwidth needs to be judged on two characteristics, diversity and scalability. For data centers that protect their physical facilities through N+ 1 techniques, it is important to use the same techniques for Internet bandwidth. If the Iowa Communications Network (the State's telecommunications carrier) has a problem, diverse access paths to the Internet protect the State's business.

Scalability is the other key metric of bandwidth. As e-Government grows the need for Internet bandwidth increases. Spikes in usage are handled dynamically so infrastructure can handle the ebb and flow of transactions for which Internet business is notorious.

World class Operations

An N+1 data center needs a world class 24x7 Operations team to manage and maintain it. The ITE Infrastructure Services team has years of experience in maintaining mission critical, production systems. ITE works with customers before the system goes into production to make sure the procedures are in place to handle both normal and atypical situations. ITE monitors the production environment up to the application as part of the standard service offering, and can build custom solutions to support customer's unique requirements. ITE's Operations team leverages technical staff expertise to keep state government business solutions online. ITE's data center and infrastructure support allows customer information technology staff to concentrate on developing solutions, not maintaining them. From providing redundant components, extensive physical and network security, diverse and scalability Internet bandwidth, and an outstanding Operations team, ITE's Data Center support is designed to support both an attended and "lights out" production environment tailored for 24x7 services.

IT "Business Continuity Center" at the National Guard Joint Forces Headquarters (JFHQ)

Since JFHQ (formerly known as STARC Armory) was built, state agencies have had space designated for computer disaster recovery. Now renamed the "Business Continuity Center", it has at various times in the past been referred to as a "cold" or "warm" site – meaning there was conditioned, ready space with raised floor, power, and some air conditioning available to use at the time of a disaster.

The business continuity center is co-located at JFHQ with the hub of the Iowa Communications Network (ICN). In the event of a disaster in a state government facility, state agencies can move

anywhere in the state where the ICN is available and can very quickly recover normal operations. This allows state agencies to develop and test disaster recovery solutions and develop recovery plans with well defined timelines. As existing computing platforms are retired and state government achieves increased standardization among the replacement platforms, additional investments in core computing infrastructure will be added to the business continuity center. This will facilitate much more comprehensive and effective Continuity of Operations (COOP) and Continuity of Government (COG) planning for all branches of state government.

There are a small number of customer servers in production today in the business continuity center. The environmental systems are being upgraded and a mainframe and storage peripherals will be installed in the fourth quarter of FY 2005. The business continuity center will also house storage area network (SAN) components and a secure server farm operations center. This equipment will be used to deliver production service on an on-going basis as well as provide reserve capacity to pick up critical applications from other data centers when required for business continuity purposes. In a reciprocal fashion, existing data centers will be used to provide reserve computing capacity for applications that are intended to normally run at the business continuity center.

Customer agencies have provided information about their critical business functions and the IT infrastructure required to support them. This information is being factored into the design of the business continuity center. Detailed planning will be required to implement the networking, data migration, and operational procedures for the transfer of critical workloads between data centers within the required recovery timeframes.

DAS Hoover Building Data Center Improvement Project

The Hoover Building B Level Data Center is in dire need of renovation. Since the Hoover Building was occupied for the first time in 1978, there have been no significant modifications or maintenance overhauls to the chilled water supply system in the B Level data center. The data center operates with one chilled water system in the winter months because the main Capitol Complex water chiller loop is shut down. With no backup and minimal preventative maintenance on the single chilled water system, the ITE data center has a major exposure to a potential failure. The system responsible for humidification/de-humidification is almost totally ineffective. As the equipment in this system failed over the years, it was taken out of service. Discontinued computer cabling has not been removed in the past twenty-five years. Even with the 24 inch space beneath the raised computer floor, this buildup of cabling is impeding airflow throughout the data center. The emergency power generators, part of the data center uninterruptible power supply, use a single transfer switch. This is a significant potential single point of failure in an emergency.

A core function identified in the DAS 2005 performance plan is to provide a reliable information technology infrastructure. The goal in the performance plan states that the mainframe is to be available for customer use 99% of the time. Strategies to achieve this goal call for implementing

the N+1 data center design. This will require upgrades and improvements to the HVAC, emergency power, and related systems to ensure system availability.

In January 2004, the GSE Design and Construction, Central Complex Maintenance, and ITE Infrastructure Services groups began working together to implement major improvements in the infrastructure supporting the Hoover Building data center and server farm. The team selected a consulting firm with expert experience in data center design to evaluate, validate, and recommend additional improvements in fire suppression, temperature and humidity control, electrical and lighting, space planning, security controls, water detection, raised floor adequacy, and other issues. The consultant's report resulted recommendations totaling approximately $2.2 million. Design for this renovation is underway and will be completed as final decision are made. For a list of these improvements, see Table 4.

Table 4. Hoover Building Data Center Planned Improvements

System	Improvements
Space Planning and Facility and Building System Integrity	• Area Reconsolidation • Repair Raised Floor • Improve Dust and particle control • Install Vapor Barriers (humidity control) • Improve Security Access Control
Power System	• Implement Generator "Paralleling" gear upgrades • Install Generator Housing • Install an Additional Generator Day Tank • Improve Surge Protection • Revise Electrical Closets (also part of area reconstruction) • Tie UPS and other systems to the central building management system • Perform a Grounding analysis
Cable Management	• Purge abandoned computer and power cables • Add cable trays and hooks • Labeling and documentation of equipment and connections • Revise communication closets
Smoke Detection & Fire Suppression Systems	• Very early smoke detection (VESD) • Replace existing Halon 1301 system with a DuPont FM200 fire suppression system.
HVAC Systems (Heating Ventilation and Air Conditioning	• Add a 200 ton chiller to improve cooling capacity and redundancy. • Relocate cooling units to accommodate remodeling • Replace cooling units mounted above servers in the server farm • Connect the data center HVAC system to the building automation system.
Water Detection Systems and	• Backup sump pump • Place protective hoods over key equipment

System	Improvements
Drainage	• Improve water detection and alarm system • Reroute sprinkler and other water pipes away from key equipment areas • Improve ground water drainage system • Improvements to floor drains under the data center

DAS Operational Support for the Department of Human Services Medicaid Management Information System

ITE is providing consulting, software support services and capacity planning services in preparation for the hosting of the Medicaid Management Information System (MMIS). ITE is making the upgrades to the data center operating environment, software suite, and system capacity necessary to host the MMIS. Through June 2005, ITE will work with and provide support necessary for the Department of Human Services (DHS) staff to install a copy of the MMIS system currently running on ACS (contractor) systems. This support also includes vendors who have been awarded contracts to manage and operate the MMIS system. ITE will provide operational support beginning on July 1, 2005 when the MMIS system is expected to be in full production.

MMIS functionality is hosted jointly at the Hoover Building and the JFHQ sites. It is anticipated that beginning in April of 2005, all production operations will be migrated to the ITE managed Business Continuity Center at the JFHQ facility. A development, testing, and hot backup site will be available at the ITE managed Operations Center in the Hoover Building.

DAS Enterprise Infrastructure and Personnel (EIP) Project

The Enterprise Infrastructure and Personnel (EIP) project is an assessment of all information technology within the Executive Branch of state government in Iowa. Governor Vilsack is focused on becoming more effective and efficient in the methods of doing business within the executive branch. The legislature directed a study to review and define the impact of possible changes which would be focused on increasing the effectiveness, efficiency of information technology (processes, technology, and organization). Specifically, the study sought to understand where duplication exists, explore meaningful changes and specific models in the structure and organization of information technology in the executive branch, and to understand the cost and effects associated with those changes.

The EIP Assessment was delivered to the Legislative Services Agency December 1, 2004. It provided three organization models for information technology in the executive branch. From this report, the “Service Provider Organization Model” was chosen as a baseline to formulate future efforts for Iowa’s information technology approach.

Eight key initiatives were identified to provide processes and programs to drive efficiencies and effectiveness of information technology, as well as beginning to customize the Service Provider model specifically for Iowa. The key initiatives are:

1. Technology Governance Council
2. Enterprise Architecture
3. Funding (Sources)
4. Procurement / Sourcing
5. Infrastructure
6. Data Center Consolidation
7. Lifecycle/Desktop Standards
8. Applications

FY 2005 and FY 2006 will be spent on the further study and implementation of the Service Provider Organization Model. Under the direction of the Governor, ITE will take a lead in this effort and work with representatives of executive branch organizations to ensure the service improvements and efficiencies outlined in the final report are realized.

Significant Systems Completed in 2004

- Civil Rights Commission – Case Management System
- Ethics & Campaign Disclosure Board – Web Reporting System Reporting Subsystem.
- DAS Human Resources Enterprise – Applicant Tracking JetForms Removal.

Marketing

Information Technology Enterprise Marketing Plan

Geographic Location

The Information Technology Enterprise headquarters and primary staff location is in the State Capitol Complex on B Level of the Hoover State Office Building at E.13th and Walnut in Des Moines, Iowa. ITE staff is also located at the Iowa Workforce Development Building, 1000 East Grand Avenue, Des Moines, Iowa.

Seasonality Factors

The delivery of government information technology services is not subject to seasonality factors, however, we do experience constraints on resources at various times of the year. Most notably, the agency spending at the end of the fiscal year creates a significant challenge for systems and support staff.

Profit Characteristics

The Information Technology Enterprise is not operated as a "for profit" business. The utility rates and pricing for market place services are structured to fully recover the costs associated with the provision of those services. However, ITE does charge adequate fees so it can reinvest in itself, just like any other business since it receives no appropriations.

Industry Competition

By definition, there is no competition for the utility services (i.e. Common Calendar and Directory, Iowa Financial Accounting System, Human Resource System Information System and Public Key Infrastructure).

For marketplace services, DAS will compete for the business on an equal with all other service providers, public and private. DAS sets prices for marketplace services based on direct and indirect costs and a market analysis. The following services will require a market analysis:

- Consultation
- Database Services
- Desktop/Workstation
- E-Mail
- Help Desk
- Mainframe Development Services
- Mainframe Services
- Networking/Communications

- Security Services
- Server Hosting
- Web Services

Market Niche Opportunities

Customer Base - The legislation establishing the Information Technology Enterprise states that "the provisions of chapter 23A relating to non-competition by state agencies and political subdivisions with private enterprise shall not apply to department activities authorized under this paragraph." This enables ITE to provide market-based services to a customer base in both the public and private sectors. (Note ITE has submitted to requests to change the code and remove conflicting sections. ITE only wants to be able to serve government and its sub-divisions.)

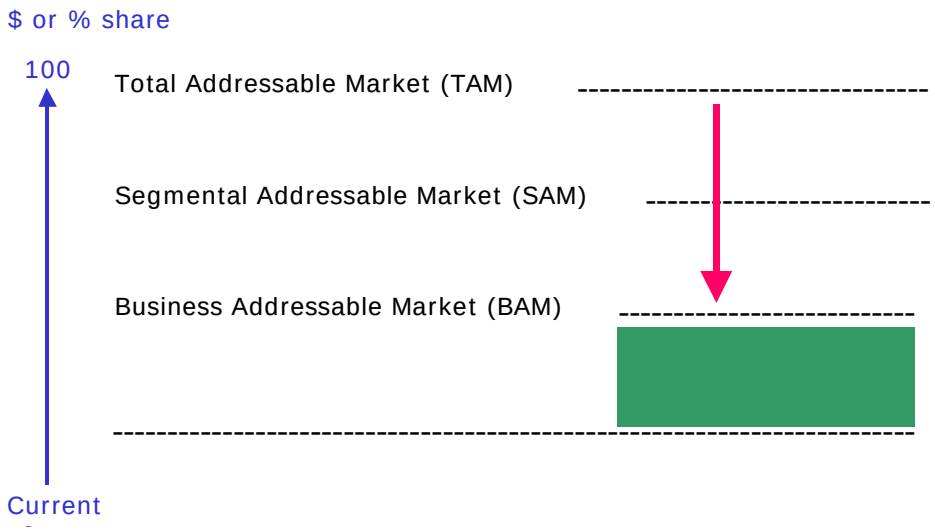
Value-Based Services - The legislation also provides a definition of "value-based" services that can be included in these service offerings. This definition includes "services that offer or provide unique, special, or enhanced value, benefits, or features to the customer or user, including, but not limited to, services in which information technology is specially designed, modified, or adapted to meet the special or requested needs of the user or customer, services involving the delivery, provision, or transmission of information or data that require or involve additional processing, formatting, enhancement, compilation or security, services that provide the customer or user with enhanced accessibility, security or convenience, research and development services, and services that are provided to support technological or statutory requirements imposed on participating agencies and other governmental entities, businesses, and the public

The market niche currently targeted is comprised primarily of certain information technology services in the judicial branch and state agencies in the executive branch. The broad technical expertise and substantial experience of the ITE staff in working in a state government environment provide a unique combination of core competencies that enable ITE to provide superior quality services to this market niche.

Target Market Profile

In assessing the market targeted by ITE's services, it is important to understand the total market dynamics. The total market size (TAM) represents all the products and services to be sold (by all service providers) in that market space each year. The segmental addressable market (SAM) represents the "collective" opportunity existing for DAS once non-related products and services (i.e. services DAS does not intend to offer) opportunities are removed from TAM. After a further analysis is performed, the business addressable market (BAM) is determined which represents the "true" opportunity for DAS that exists by understanding customer demographics and their needs in relation to our own capabilities to serve them.

Figure 1: Market Segment Analysis



Market Penetration

ITE has responsibility for standards and review of all IT procurement for all state agencies other than the state board of regents and institutions operated under the authority of the state board of regents; the public broadcasting division of the department of education; the state Department of Transportation mobile radio network; the Department of Public Safety law enforcement communications systems and capitol complex security systems in use for the legislative branch; the information technology that is unique to the Iowa communications network; the Iowa lottery; and a judicial district department of correctional services established pursuant to Iowa Code Section 905.2.

ITE operates approximately 20% of the infrastructure and systems serving executive branch agencies. The key services that ITE offers are systems operations and management, job processing, and networking. The remainder of the infrastructure and systems serving executive branch agencies operate independently of ITE. In addition, the legislative and judicial branch technology services operate independently of the executive branch and of each other.

ITE operates centralized financial, accounting and human resource systems for all executive branch agencies, all offices of statewide elected officials, the Judicial Department, and the Legislative agencies of state government. ITE is currently charged with leading the implementation project for, and ultimately the operation of, an Enterprise Resource Planning system (known as I/3) to serve the same customer base.

Advertising, Promotion and Outreach

The success of an entrepreneurial management program depends ITE's ability to reach and service its' target market. The development of trust and confidence in the people and programs associated with ITE is the foundation of effective subsequent relationships. Unfortunately, there

is no quick recipe for building that trust. It will take time and a concerted effort to get the desired exposure and create the linkages that will build trust and enable ITE to reach and serve its target population.

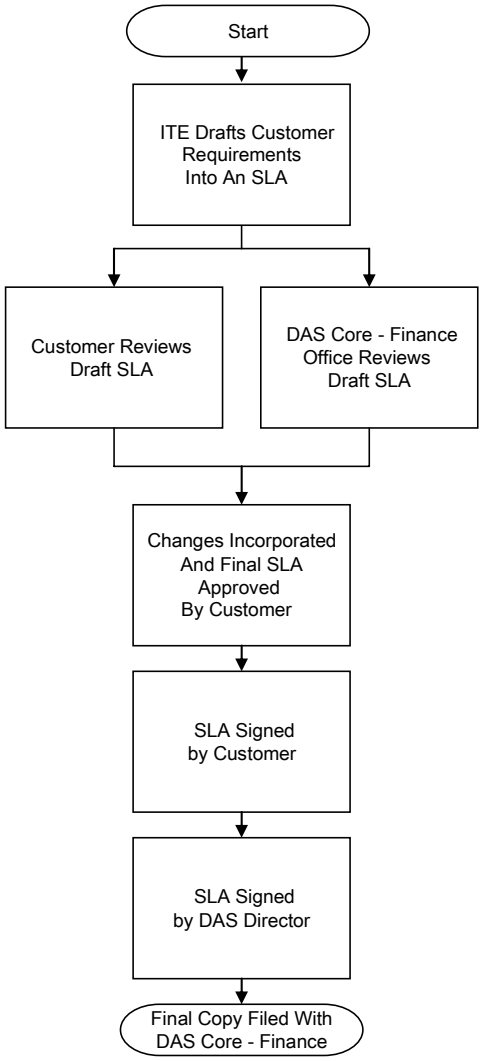
Existing service providers will be important partners as ITE moves into entrepreneurial management. While each has their niche in the technical assistance environment, at times our target markets will overlap and ITE must work together with partner organizations on certain mutually beneficial initiatives. Marketing ITE so that it becomes a trusted partner within state government will allow it to build exposure and specialization, as well as to access a larger population of potential clients (local governments, for example) than would be feasible if it were working alone. Regular communication with business partners helps to maintain awareness of each organization's respective program offerings and facilitates constructive referrals and collaboration.

Service Level Agreements and Warranties

The terms and conditions of services that are to be delivered to ITE customers on an ongoing basis are described in Service Level Agreements. Typical service level agreements contain the following information:

- **Introduction** – Contains identification of parties and description of agreement.
- **Description of Services** – Describes the services to be delivered, special operational considerations, outage notifications required, etc.
- **Parties Responsibilities** – Delineates the responsibilities of each of the parties to the agreement and third party contractors (if any).
- **Terms and Termination** – Describes the duration of the agreement, special conditions placed upon the delivery of the service(s), and requirements for termination of the agreement.
- **Terms and Conditions of Payment** – Description of the mutually agreed upon conditions for, and methods of, payment.

Figure 2. Simplified Service Level Agreement Process Flow



Future Markets

The potential, or total addressable market as described earlier, is virtually unlimited. The DAS legislation specifically states that the provisions of chapter 23A of the Iowa Code relating to non-competition by state agencies and political subdivisions with private enterprise does not apply to ITE activities. (ITE has suggested changes to the code so it does not have ability to compete with the private sector). Pragmatically, however, ITE's addressable market will be determined by its understanding customer of demographics and their needs in relation to ITE's own capabilities to serve them. ITE's dual core competencies of information technology technical expertise and knowledge of governmental operations would tend to target the local government market as the most reasonable target for future expansion.

Pricing Profile

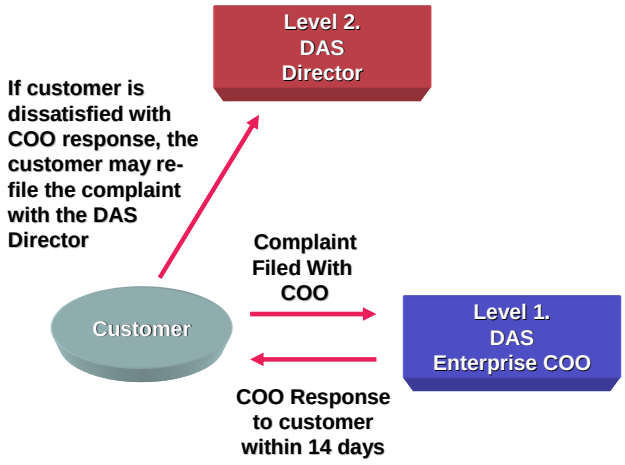
The pricing profile is dependent upon the "Entrepreneurial Management Product and Service Classification" utility services have "rates" established that are approved by the DAS Customer Council. Leadership services are funded by General Fund appropriations. ITE has no Leadership Services at this time. The pricing objective of rates is to fully recover the direct and indirect costs of providing the service.

The pricing for ITE marketplace products and services are established based on an analysis of direct, indirect, and general & administrative costs and the prevailing prices in the market for the same or similar product or service. DAS customer agencies that use such products or services would pay the marketplace prices them.

Common Customer Complaint Process

The Department of Administrative Services has adopted a common customer complaint process. (See Figure 3)

Figure 3. DAS Common Customer Complaint Process



Operating and Control Systems

Information Technology Enterprise Operations

Operational and Service Infrastructure

The primary staff location is in the State Capitol Complex, totaling 25,800 square feet of floor space on B Level of the Hoover State Office Building, located at E.13th and Walnut in Des Moines, Iowa. ITE staff is also located at the Iowa Workforce Development Building, 1000 East Grand Avenue, Des Moines, Iowa.

ITE Networking operates a campus-area data network on the state Capitol complex supporting Gigabit Ethernet, 100 Mbps Ethernet, 10 Mbps Ethernet, 155 Mbps OC-3 ATM and 16 Mbps Token-Ring. Headquartered at the Hoover State Office Building, ITE has extended its Gigabit Ethernet data network backbone to the Lucas, Grimes, Parker, Historical, and Wallace buildings, as well as the State Capitol Building. ITE has plans to extend Gigabit Ethernet to additional buildings on the Capitol complex campus. This technology, combined with ITE's existing ATM campus network, allows ITE to provide virtual Local Area Network technology anywhere on campus, making adds, moves and changes easy and cost effective campus-wide.

ITE Operations provides operational support for two mainframe data centers located in the State Capitol Complex and a server facilities supporting Internet and wide/local area functionality.

Growth Plan

Information Technology Enterprise Growth Plan

ITE's growth plan is to grow the value of its services, whether the result is an increase or decrease in either our revenues or costs, as long the value of the service can be defined and realized by our customers.

Therefore, ITE's growth plan can be summarized in the following statements;

1. Provide Utility Services in a cost effective manner meeting customers' needs in terms of cost, quality and performance.

2. Provide Marketplace Services through a competitive price structure that meets Customers' needs in terms of service offerings, service features, service delivery, and performance.

3. ITE will grow the value of our products and services. To grow the value of our products and services we must ensure costs are relevant to the service features, delivery and performance required by our Customers. Features that add cost but do not add value to our customers must be eliminated.

Growth Strategies

To grow the value of ITE's products and services ITE is focused on the implementation of the following strategies;

1. For Marketplace services, provide only those services:
    a. Customers want and are willing to pay for.
    b. Priced competitively with the external market.
    c. Containing the features, delivery and performance that meet the expressed needs and requirements of our customers.
    d. Where ITE has the level of expertise necessary to successfully deploy and manage in a professional, architected business and technical environment.
    e. That are fully funded through service revenue provided by our Customers.

2. For Utility Services, work with our Customer Council to;
    a. Drive down the cost of the service.
    b. Ensure each utility service is activity managed in terms of both cost and performance.
    c. Adequately add or reduce capacity and/or capability when necessary to meet the enterprise goal of the centralized resource.

d. Achieve 100% cost recovery through an agreed upon methodology where all Customers pay only their fair share.

3. For Leadership Services, work with our Agency partners, non-Executive Branch Customers, the Department of Management, the State Legislature, and the Governor's Office to identify and deploy those services viewed as a leadership IT function of State Government.

Growth Challenges

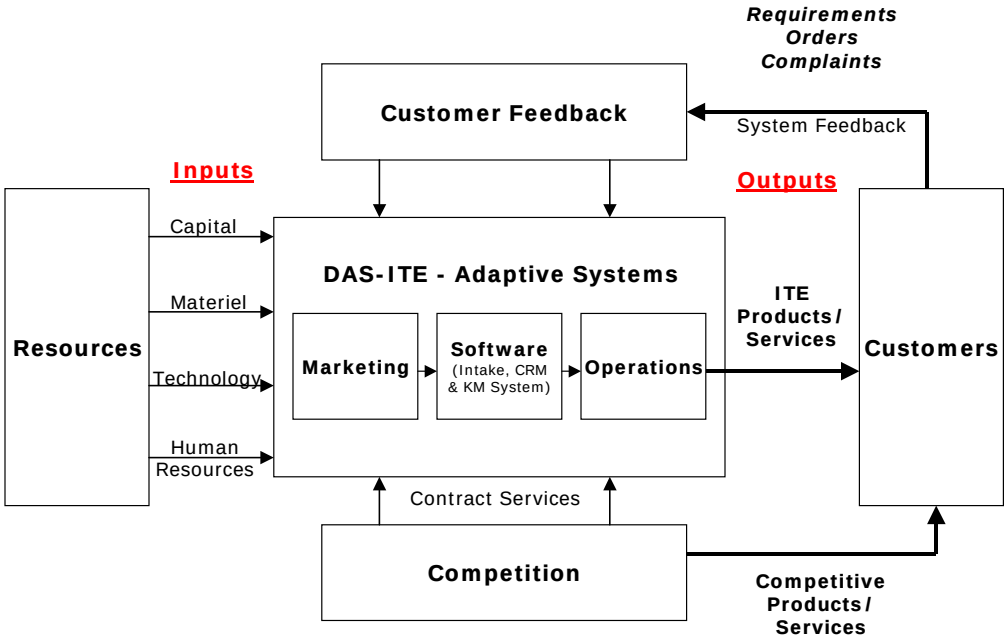
To achieve our growth plan, ITE must work with our partners to resolve the following challenges;

1. Eliminate the over-recovery of Federal funds. (See the Financial section for details on progress in elimination of federal over-recovery.)
2. Establish a strategic partnership with the Legislature to obtain the funding necessary, either through ITE or through our Customers' budget requests, to meet State or Federal statutory IT-related mandates. Provide the information and data necessary to demonstrate the value IT services to our mutual constituency - the Citizens of the State of Iowa.
3. Create financial statements that support: a detailed cost analysis for each service group (e.g. web services), Generally Accepted Accounting Principles, cash flow analysis and planning, and metrics for achieving our financial goals.
4. Promote a mutual support environment between ITE and our Customers to leverage the IT talent within State Government.

Customer Service Adaptive Organization Models

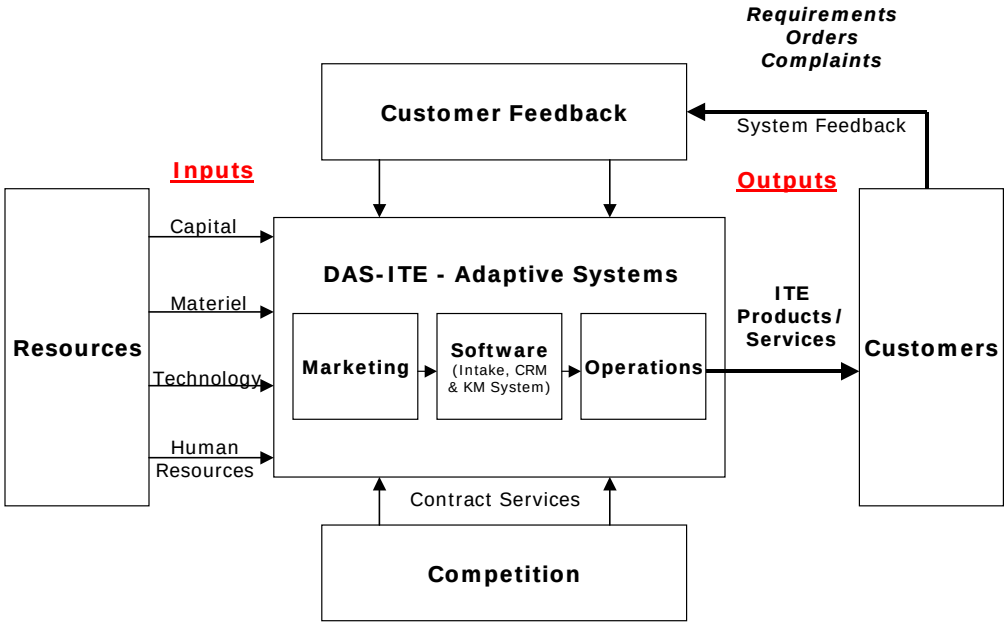
To maintain customer satisfaction, ITE must continuously improve and adapt our service offerings. This applies to utility services as well as marketplace services. The following models represent the requirements for such an adaptive organization. See Figures 4 and 5.

Figure 4. ITE Customer Service Adaptive Organization – Marketplace Services



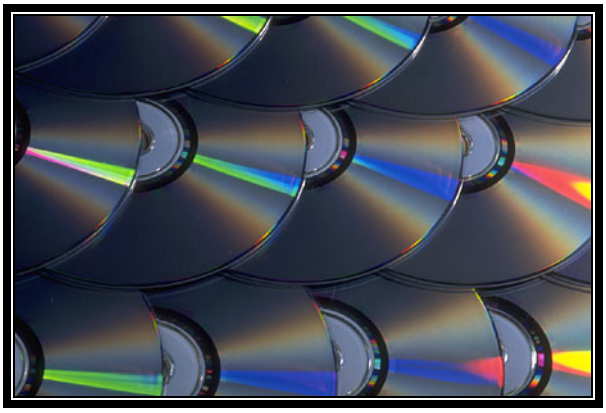
For marketplace services, vendors may be regarded as competition or they may be strategic partners in the provision of services to ITE customers. ITE may use vendors as an adjunct to the internal staff or may choose to broker the vendor's services to the customer base.

Figure 5. ITE Customer Service Adaptive Organization – Utility Services



For utility services, vendors would only be involved if it were necessary to supplement the ITE staff skills and/or availability. Customers do not have the choice to going directly to vendors for utility services.

Financial Information



Information Technology Enterprise Financials

Financial Reporting

Prior to FY 2004, DAS-ITE financial information was reported by cost centers that captured expenses along functions, not product line. Revenues were not matched to the product lines that earned them. A clear breakdown of the expense categories was not readily apparent by line of business for direct costs, indirect costs, general and administrative, and capital investment/depreciation recovery. This financial reporting made it difficult to analyze the profitability and efficiency of lines of business, analyze the effectiveness of rate setting, understand if DAS-ITE is realizing proper return on investments, or determine where DAS-ITE's over-recovery issues really are.

During FY 2004, DAS-ITE changed its accounting structure. The structure allows DAS-ITE to match expenses and revenues by line of business and by line of service. The following changes were accomplished during FY 2004:

- Each DAS-ITE rate was associated with a major product line and then, in turn, a line of business.
- Each DAS-ITE leadership, direct, indirect, and G&A cost (non-personnel) was associated to lines of business
- A personnel cost allocation methodology was developed for DAS-ITE that ensures that DAS-ITE personnel costs are appropriately allocated across lines of business.
- A revenue-modeling tool was developed to aid in establishing rates.

Federal Over Recovery

Over the years, ITE's General Fund appropriation has been cut from $8 million to the $2.6 million in FY 2004. To account for this decrease in appropriation, ITE operated a billing structure and rate models that resulted in over-recovery of revenue due to inflated rates to some customers and delivery of services free of charge or at subsidized rates to other customers. The appropriation is claimed by many agencies as the state match for Federal grants or subsidization for the under-billed enterprise systems.

The 80th General Assembly approved an appropriation to resolve some of the over-recovered funds. Other necessary steps are for DAS-ITE to charge rates that reflect only the cost of services provided, slowing future over-recovery; and to charge all customers for the services they use.

DAS-ITE utilized fiscal year 2004 to reevaluate its rates and align them more closely with costs. ITE educated its customers and the legislators about the costs of non-billable services and the effect of over recovery to the State. During the FY2004 session, legislators and the governor appropriated the necessary funds to handle DHS's Federal match requirements for DAS-ITE services.

During FY 2005, DAS-ITE allocated its remaining General Fund appropriation to customers. ITE's billing system was adjusted to eliminate the overstatement of the memo portion of its billings. For FY 2005, ITE now relies 100% on billings for funding and operates as a business enterprise.

Lowering Rates

Through better financial management, DAS-ITE was able to lower rates twice in the past eighteen months. In early FY 2004, DAS-ITE lowered the majority of its rates by 15%. At the beginning of FY 2005, DAS-ITE lowered all rates for mainframe services from 45-60%.

Financial Reporting Summary

By emphasizing better fiscal management during fiscal years 2004 and 2005, DAS-ITE has much better information to analyze its financial performance, understand its expense structure, understand the effectiveness of it lines of business and handle its Federal over-recovery issues. Over the past two fiscal years, DAS-ITE was able to substantially lower rates to customers. With the support of the legislature and the governor, DAS-ITE has been able to solve the lion's share of its federal over recovery issues. DAS-ITE now has the first basic building blocks for future improvements in managing and understanding the financial aspects of its business. This increased financial accountability will ensure that our customers continue to receive best price, best quality and best value for the DAS-ITE services that they purchase.

Table 5. FY 2004 – FY 2005 Un-reimbursed of Underfunded Systems

State Agency or DAS Division	Name of System
College Student Aid Commission	Teacher Shortage Forgivable Loan
DAS – ITE	ITE Intake Mgmt System
DAS – ITE	Leave Request System
DAS - ITE	PACE Billing System
Department of Management	Department of Management Website
Department of Management	Personnel Management Information System
Department of Management	Statewide Valuations System
DAS - HRE	Budget System
DAS - HRE	Flexible Spending
DAS - HRE	Iowa Interactive Training System (IITS)
DAS - HRE	Merit Billing
DAS - HRE	SECU

State Agency or DAS Division	Name of System
DAS - HRE	SPOC Split Public Safety and Natural Resources (SR 6012)
DAS - HRE	Multiple Work Weeks for time reporting (SR 5150)
DAS - HRE	WASP
Iowa Civil Rights Commission	Case Management System Rework
Iowa Ethics & Campaign Disclosure Board (IECDB)	IECDB Web Reporting System Support
Governor's Office	Capital Correspondence Replacement
Governor's Office	Commemorative Medallion Sales
Governor's Office	Governor's Office Multimedia Support
Governor's Office	Iowa Quarter Sales

Analysis of Product Line – Applications Development

Applications Development has made improvements in a number of areas. The restructuring plan has set the direction needed to improve product delivery to our customers. Difficulty in filling some of the key leadership positions has delayed the impact that the restructuring has had, but progress is being made. Utilizing project managers to oversee larger projects has resulted in better communications with customers and more accurate tracking of our work. Reducing the amount of uncompensated work has allowed ITE to reduce its operating deficit.

Actions Taken in 2004 to Improve Productivity and Customer Satisfaction

- Renegotiated contract with Iowa Interactive reducing costs to state by over $400,000 while increasing the amount of work provided by the vendor and increasing their accountability under the contract.
- Worked with customers to identify and complete commitments made by prior leadership. While this caused the group to incur significant costs, it has resulted in better relationships with customers and, in several cases, has resulted in additional billable work with those customers.
- Engaged Iowa Interactive to develop a common professional licensing portal. This portal went live with the initial licensees, Real Estate brokers and engineers, in December. The application allowed the customer to retire a mainframe system, reducing their operating costs while increasing availability.
- Initiated retirement of the JetForms product. Product is being discontinued by the vendor, so ITE worked with customers to either remove the forms from their application or direct them to a replacement product. ITE completed removal of forms from those applications it maintained. Applications that will migrate to another product are in the process of being implemented.

FY 2006 Outlook

The prospects for ongoing improvement of the group are strong. There continues to be a range of projects being requested and funding of projects by the IOWAccess fund remains strong. Continuing to improve the efficiency and effectiveness of delivery will improve the division's financial performance. Implementation of best practices in the area of project management, testing and resource management will assist in this improvement.

FY 2006 Major Issues

- Implementation of New Billing and Time Reporting system. The current ability to track and bill for work performed makes it difficult to effectively recover for that work. The ability to recover for work performed will allow ITE to more precisely attribute costs and allocate revenues. Changes to work processes will be necessary to accommodate the requirements of the new systems. In addition, resources necessary to implement this system will be provided by the development group. While this is expected to be billable work, it will none the less reduce the group's ability to perform work for other customers.
- Rate Adjustment. With the ability to attribute costs and revenues more accurately, it is important that ITE assess its hourly rates and adjust them to reflect our cost structure and productivity.
- EIP Implementation. The unknowns introduced by the EIP Consolidation proposal will impact the productivity and morale of the group. At this time, there does not seem to be a significant impact to the functions of AEGS.

Information Technology Enterprise – FY 2004 ITE Operating Fund

Resources

General Fund Appropriation	2,283,950.48
Infrastructure Revenues	16,351,708.95
Application Revenues	1,333,386.79
IowAccess Transfers	895,525.32
Pooled Technology Transfers	84,867.00
Data Warehouse Transfers	614,274.35
I/3 appropriations	295,288.57
Interest Income	99,542.94
Grant Reimbursements	67,291.82
Other	71,835.10
Total Resources	$ 22,097,671.32

Direct Expenses

Infrastructure Services

Hoover - Mainframe Process Support	4,482,557.23
IWD - Mainframe Process Support	740,645.91
Desktop/Workstation	546,518.11
Networking	1,025,143.63
Server Hosting	1,791,085.04
E-mail	616,874.71

I/3

Project Costs	501,875.35

Applications Development

Database Support	744,249.77
Applications Development	2,343,880.29
Mainframe Support	331,784.61
Mainframe Support - HRIS/IFAS	319,184.27
Total Direct Expenses	$ 13,443,798.92
Gross Operating Profit	$ 8,653,872.40

Indirect Expenses

Infrastructure Services Indirect [2]	3,433,860.80
Help Desk Support	335,233.83
Applications Development Indirect	258,131.83
Planning & Administrative Expenses	684,694.74
Total Indirect Expenses	$ 4,711,921.20
Net Operating Income/(Loss)	$ 3,941,951.20

[2] Includes $1.25M transfer to GSE capital funds, $1.02M transfer to GSE for JFHQ & Hoover Data Center, & $785,216 to GSE capital funds for project #1217

FY 2004 ITE Operating Fund (continued)

General & Administrative Expenses

Shared Services	637,904.14
Grants & Projects	766,433.17
Security Implementation	214,621.42
Business Administration	677,934.89
Total General & Administrative Expenses	$ 2,296,893.62
Net Cash (Deficit) From Operations	$ 1,645,057.58

Information Technology Enterprise – FY 2005 ITE Operating Fund – First and Second Quarter (Through December 2004)

Resources

C89 Utility Transfer	130,005
Infrastructure Revenues	7,195,905
Application Revenues	1,157,990
Utility Fees	778,015
IowAccess Transfers	761,304
I/3 appropriations	916,611
Interest Income	50,569
Other	17,912
Total Resources	$ 11,008,311

Direct Expenses

Infrastructure Services

Hoover - Mainframe Process Support	2,481,298
IWD - Mainframe Process Support	369,194
Desktop/Workstation Support	325,703
Networking Support	600,920
Server Hosting Support	880,364
E-mail Support	393,618

I/3

Support	1,061,633

Applications Development

Database Support	391,082
Applications Development	1,740,465
Mainframe Support	152,068
Mainframe Support-HRIS/IFAS	166,197
Total Direct Expenses	$ 8,562,542
Gross Operating Profit	$ 2,445,769

Indirect Expenses

Infrastructure Services Indirect	498,962
Help Desk Support	150,545
Applications Development Indirect	69,945
Total Indirect Expenses	$ 719,451
Net Operating Income/(Loss)	$ 1,726,317

FY 2005 ITE Operating Fund – First and Second Quarter (Through December 2004) (continued)

General & Administrative Expenses

Shared Services	776,242
Security Implementation	86,801
Business Administration	458,772
Total General & Administrative Expenses	*$* 1,321,815
Net Cash (Deficit) From Operations	*$* 404,503

Information Technology Enterprise – FY 2006 Projected Budget

Resources

Revenues and Transfers	24,477,222
Interest Income	65,000
Refunds & Reimbursements	1,000
Other	55,000
Total Resources	$ **24,598,222**

Expenditures

Personal Services	12,887,062
Travel, In-State	208,606
Travel, Out-of-State	384,230
Supplies, Office	28,746
Supplies, Facility Maintenance	1,339
Supplies, Equipment Maintenance	1,030
Supplies, Professional and Scientific	40,170
Supplies, Other	13,081
Printing	618
Food	0
Postage	824
Communications	1,245,766
Rentals	20,731
Professional Services/Consulting	34,880
Outside Services	575,254
Transfers, Intra-State	1,313,160
Advertising and Publicity	0
Outside Services & Repairs	12,967
Attorney General	61,800
Auditor of State	41,200
Reimbursements Other State Agencies	293,367
Reimbursements, ITE	0
Workers Compensation	49,439
Equipment, Non-inventory	5,871
Data Processing Inventory	824,000
Data Processing, Maintenance, licenses, non-inventory	6,546,923
Other Expenses and Obligations	4,099
Interest Paid	3,059
Total Expenditures	$ **24,598,222**

IowAccess Fund – FY 2004 and FY 2005 Budgets

	FY04 Actuals	FY04 Budget	FY05 Budget	FY04 to FY05 Budget Variance	Rationale of Variance
Revenues					
Transfers, Fees for Certified Copies of Drivers Licenses	1,000,000	1,000,000	1,000,000	0	
Interest Income	35,071	12,000	20,000	8,000	Larger day-to-day cash balance
ICIS Receipts	166,700	100,000	170,000	70,000	Reflects Fiscal Year 2004 activity
IMVR Receipts	2,770,973	2,760,000	2,700,000	(60,000)	Conservative estimate
Total Revenues	**$3,972,744**	**$3,872,000**	**$3,890,000**	**$18,000**	
Expenditures					
Personal Services			91,500	91,500	Approved FTE per council recommendation
Travel, In-State			2,400	2,400	FTE/council travel per council recommendation
Travel, Out-of-State			2,500	2,500	FTE travel per council recommendation
Communications	29,369	25,000	27,864	2,864	Adjusted per past expenditure pattern
Professional Services/Consulting	1,107,091	2,408,052	1,305,000	(1,103,052)	New contract parameters
Outside Services		2,000		(2,000)	No expenditure forecast
Transfers, Intra-State	381,470	92,000	415,646	323,646	Judicial and IowAccess project transfers
Outside Services & Repairs		3,000		(3,000)	No expenditure forecast
Reimbursements to ITE	903,034	1,289,948	2,027,090	737,142	New contract parameters
Equipment, Non-inventory		2,000		(2,000)	Nno expenditure forecast
Data Processing Inventory		35,000		(35,000)	No expenditure forecast
Data Processing, Maintenance, licenses, non-inventory	8,737	5,000	13,000	8,000	Adjusted per past expenditure pattern and Other
Expenses and Obligations	3,101	10,000	5,000	(5,000)	Adjusted per past expenditure pattern
Total Expenditures	**$2,432,802**	**$3,872,000**	**$3,890,000**	**$18,000**	
Actual cash balance brought forward from FY03			216,673		
Actual cash balance brought forward from FY04				1,756,565	

Projects Funded Through the IowAccess Revolving Fund

Project Name	FY Funded	Approved	Amount Spent [3]	Remaining Balance
Web Reporting System Public Access Improvements	FY 2004	20,000	20,719	(719)
Miscellaneous Contribution Tracking	FY 2004	7,000	550	6,450
Lobbyist/Client Tracking System	FY 2004	18,500	9,687	8,813
Commerce Professional Licensing Systems	FY 2004	5,498	5,498	0
Web Based Teacher License Renewal	FY 2004	445,059	364,653	80,406
Web Based Teacher License Renewal hosting fees	FY 2004	12,000	0	12,000
Child Development Home Registration Renewals	FY 2004	199,124	23,286	175,838
Food Stamps Web Intake	FY 2004	100,000	6,007	93,993
Targeted Small Business On Line	FY 2004	45,000	0	45,000
Targeted Small Business On Line hosting fees	FY 2004	12,000	0	12,000
Social Gambling On-Line	FY 2004	55,000	6,902	48,098
Social Gambling On-Line hosting fees	FY 2004	12,000	0	12,000
Food Inspections On-line	FY 2004	125,000	135,943	(10,943)
Food Inspections On-line hosting fees	FY 2004	12,000	0	12,000
28E joint project (ITE & Iowa State University)	FY 2004	130,660	39,184	91,476
Iowa E-Government Policy Research	FY 2004	114,068	5,334	108,734
Criminal History Online	FY 2004	47,375	1,798	45,577
Electronic Tax Administration	FY 2004	414,000	231,440	182,560
Soil Conservation Grant Application - planning phase	FY 2005	10,000	-	10,000
Audit Report Web Server Project	FY 2005	3,850	3,132	718
Iowa Ethics & Campaign Disclosure Board Hosting Fees	FY 2005	12,000	7,000	5,000
Full-time position to support IowAccess	FY 2005	100,000	0	100,000
Enterprise Lyris List Manager[4]	FY 2005	170,235	88,473	81,762
Email Subscription Management for Law Enforcement	FY 2005	296	296	(0)
Campground Reservations Online	FY 2005	15,000	0	15,000
Missing Person's Report - planning phase	FY 2005	5,000	70	4,930
Interactive Phone Book	FY 2005	59,768	0	59,768
Akamai Internet Backup Services	FY 2005	11,750	0	11,750
Discretionary Fund	FY 2005	150,000	0	150,000
	Total	$2,312,183	$949,972	$1,362,212

[3] Monthly totals rolled into Amount Spent. This report reflects expenditures through January, 2005.
[4] Up to $55,000 of the Enterprise Lyris List Manager project may be used for Email Subscription Management for Law Enforcement.

Appendixes

Appendix 1. The Management Team

DAS Director – Mollie Anderson

Mollie Anderson brings more than 20 years of public and private sector management experience to her role as Director of the Iowa Department of Administrative Services (DAS), a position she has held since the inception of the new department in July, 2003.

Her work is characterized by the strong belief that people are an employer's greatest asset. She is known as an implementer whose goal to "have the right person in the right job at the right place and time with the right tools".

Ms. Anderson was human resources director for the State of Iowa for four years before assuming the directorship of DAS. Prior to that, she was the Human Resources Director for the State of Nebraska for four years. Other public-sector positions include deputy commissioner for the Nebraska Department of Labor, and both executive director and job training services manager for the Job Training of Greater Nebraska program. Her private sector experience includes serving as human resources director for Lincoln, Nebraska-based Duncan Aviation.

Ms. Anderson earned a Bachelor of Arts degree in behavioral sciences from Midland Lutheran College in Fremont, Nebraska. She was named as a winner of the Toll Fellowship Program in 2001, a competitively selected leadership program for emerging state government leaders sponsored by the Council of State Governments. She also received the Eugene H. Rooney, Jr. Award for Leadership from the National Association of State Personnel Executives NASPE in 2001.

ITE Chief Operating Officer – John Gillispie

John Gillispie brings over two decades of technology supervision, management and administration to his position as the Chief Operating Officer of the Information Technology Enterprise. Appointed to this position in 2003, John Gillispie's experience in private sector communications and technology management has been a valuable asset to the DAS Information Technology Enterprise in facing the challenge of implementing entrepreneurial management.

Leading edge technology, automation and operational/process improvements have been the hallmark of Mr. Gillispie's career. He is a results oriented leader with an MBA from Oklahoma State University and a Bachelor of Science degree in Business Data Processing from Southwest Missouri State University. Mr. Gillispie was also elected as one of four directors of the National Association of State Chief Information Officers (NASCIO) at their September, 2004 annual meeting in New Orleans, LA.

Information Technology Enterprise Division Administrators

Lorrie Tritch, Administrator - Infrastructure Services

This division is responsible for the operation of the Mainframe Data Center (including the personnel at the Iowa Workforce Development data center), Server Hosting, Networking, Security, Desktop Support, and Help Desk providing high quality information technology consulting, processing, storage, and related services. Ms. Tritch has a Bachelor of Arts degree in Management Science from Buena Vista College.

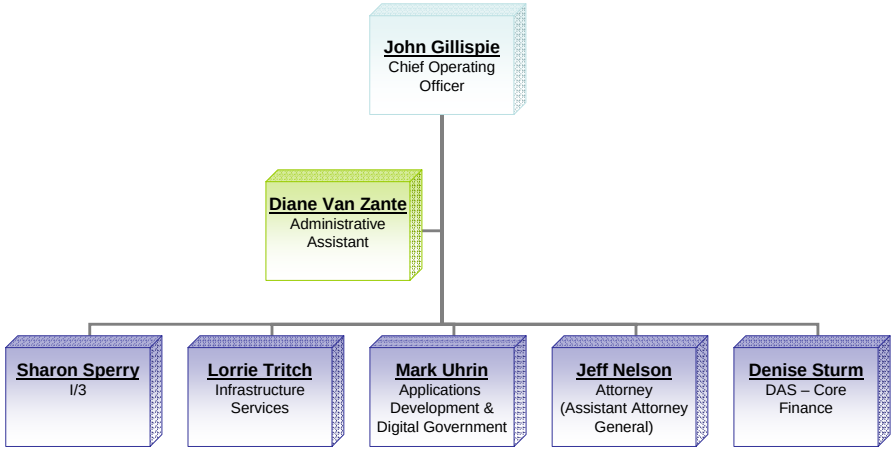
Mark Uhrin, Administrator - Applications and Electronic Government Services

This division manages application systems programming and development staff to support the program systems of enterprise and executive agencies; develop and maintain the systems that provide citizens and businesses electronic access to state government services and resources, manage the IT training area, and the Database/Data Warehouse area to provide innovative technical support to state agencies and citizens. Mr. Uhrin has a Master of Science degree in Computer Science from the Stevens Institute of Technology and a Bachelor of Engineering degree from Stevens Institute of Technology, Hoboken in Hoboken, N.J.

Sharon Sperry, Administrator - Integrated Information for Iowa (I/3) Project and IT Support

Provides the strategic direction as well as the functional deployment and support of the Integrated Information for Iowa (I/3) system - which includes the enterprise Accounting, Procurement, Budget preparation, and Human Resources/Payroll functions for the State of Iowa. The personnel, support, and network infrastructure was built on the AMS (The Vendor) documentation. We have completed one year of this three year project for implementation of all phases of the I/3 system. Ms. Sperry has a diploma in computer programming from the American Institute of Business in Des Moines, Iowa.

Figure 6. ITE Organization Chart



Oversight and Advisory Councils

The legislation establishing the Department of Administrative Services provides for various policy and advisory councils to collaborate with, and oversee, the operation and direction of the Information Technology Enterprise. These DAS-ITE policy and advisory councils, and their respective responsibilities, are:

IOWAccess Advisory Council

- Recommends projects priority and rates to be charged for access and value.
- Advises with respect to IOWAccess related projects.
- Provides linkage between Citizens of Iowa and ITE and sets priority for e-government projects.

Information Technology Council (ITC):

- Approves Return on Investment (ROI) related projects for use of Pooled Funding.
- Votes on recommendation for priority on the ROI-related projects.
- Votes on fees as recommended by the IOWAccess Council.
- Reviews legislative related projects.
- Prepares and updates ITE Strategic Plan.
- Adopts Administrative Rules.
- Recommends standards for ITE.
- Appoints Advisory Committees.
- Grants waivers to Standards.
- Reviews appeals of Director's decision.

CIO Council:

- Performs an Advisory role.
- Partners with ITE to set standards.

DAS-Technology Customer Council

- Sets rates for utility related issues and approves level of utility service.
- Reviews and comments on the provider's customer satisfaction data and information.
- Gathers its own customer input, as desired.
- Approves general service level agreement boilerplate terms, including service standards and redress mechanisms.
- Reviews and approve financial statement and business plan for utility services.
- Approves rates and prices.
- Participates in complaint resolution process.
- Advises DAS leadership on relates issues as requested.

Appendix 2. Information Technology Enterprise Service Profiles

Table 6. ITE Product and Service Summary

Information Technology Enterprise	Market Place	Utility	Leadership
1. Infrastructure			
M. Security Services	X		
N. Desktop/Workstation	X		
O. Help Desk	X		
P. Networking/Communications	X		
Q. Server Hosting	X		
R. Mainframe Services	X		
S. E-Mail	X		
T. Common Calendar and Directory		X	
U. Iowa Financial Accounting System (IFAS)		X	
V. Human Resource Information System (HRIS)		X	
W. Integrated Information for Iowa system (I/3)		X	
X. Public Key Infrastructure (PKI)		X	
2. Application Programming Services			
D. Mainframe Development Services	X		
E. Database Services	X		
F. Web Services	X		
3. Planning and Consultation			
B. Consultation	X		

1-A. Security Services (Marketplace Service)

Purpose of Service

ITE provides a broad range of security services from intrusion detection, a variety of assessment services to training. These services are designed to increase both the physical and systems security along with increasing the organizational security awareness of all personnel involved with electronic systems management and usage.

ITE's security services are based on Federal, State, Industrial, and private best practices, requirements and laws. In today's electronic information age, information and systems security is extremely important for many reasons; dependency on systems for service delivery, personal privacy laws and regulations, identity theft, and many other risks and threats to the State and its Citizens.

Unique Features

Intrusion Detection Services - Network-based intrusion detection monitors your network for hostile traffic that batters a network and renders

it incapable of supporting employees in accomplishing their daily electronic tasks. When properly implemented and monitored, network intrusion detection allows you to react appropriately when someone breaches your network, preventing costly network downtime.

Intrusion detection tools, in the hands of a properly trained security IT professional, can often identify network and security problems before they are exploited.

In contrast to network-based intrusion detection systems (IDS), host-based IDS's are able to monitor the computer's files and processes for attack signatures. Whereas network-based IDS can inform you that an attack was launched against a certain host, host-based IDS can tell you if that attack was successful. In addition, host-based IDS's can inform you of attacks that cannot be detected by network-based IDS, perhaps due to the fact that it is taking place over an encrypted protocol (e.g., SSH, SSL, IPSEC), or because the attacker is sitting at the host's local console.

Key Points of the Services - Our service includes installing, configuring, and maintaining sensors on the appropriate components within your system. These sensors are monitored daily with after-hours alerts to security and network personnel. We provide periodic reports and immediate notification of your key personnel of any intrusion event.

Additional Service Options:

Incident Response - A customer may select for ITE security professionals to respond in the event of an incident. This includes assistance in isolating the attack, responding, and developing the appropriate solutions to eliminate the exploited vulnerability.

Device Testing - ITE maintains a test lab in support of device testing. A customer can have ITE test new devices for a variety of consistency and security purposes prior to the client fielding the device. This includes installing any necessary monitoring devices and/or software.

Customer benefits - Our Customers can focus on their business knowing their network is being properly monitored and defended against hackers and other intrusion events.

Assessment Services:

Internal Assessment - Evaluation of network security from an internal perspective. We perform a vulnerability assessment of client systems and networks, finding ways of minimizing security risks within the network. This is especially important because many security breaches actually occur from within the network.

External Assessment - An evaluation of network security from an external perspective. We perform a vulnerability assessment of client systems and networks, especially firewalls, switches and routers, which are the Customer's main line of defense from the outside world. This assessment includes activities performed from two different perspectives:

- Having no prior knowledge of the client's network
- Having some prior knowledge of the client's network

The scans and analysis are performed from two venues, first from the internet to determine vulnerability from outside the State network and second from the State network backbone to determine vulnerability from other departmental networks.

Quick Hit Assessment - This is a technical evaluation of a single server or device.

Modem Sweep Only – This is a dial-up assessment. We scan the client's telephone system to detect the presence of authorized modems. Incorrectly configured modems and unauthorized modems can seriously undermine the network security since they can bypass a client's main lines of defense; firewalls, switches, routers, and authentication processes.

Password Assessment Only - An evaluation of the strength of passwords and use of default passwords. We can quickly review passwords in the systems selected to verify strong password use or discover weak password use by using of several 'password cracking tools'. These files remain confidential and in the possession of the client. Weak and default password use should be discouraged since they can quickly provide access to critical systems. Physical Assessment of IT Assets Only
A security evaluation to check on the measures implemented to physically protect critical systems and access to network components.

Security Culture Assessment - An informal evaluation to gauge the level of employee security practices performed in the client department. Examples of this include checking

for workstations left on and unattended, displaying passwords, and allowing unauthorized system access.

Physical Vulnerability Assessment - These assessments determine how secure locations are from an overall physical security perspective of the facility. This includes an evaluation of the client's security culture, on-site property penetration, and on-site computer accessibility. Reports include applicable recommendations to improve or enhance physical security.

Consulting and Training - ITE offers training surrounding all our assessment and monitoring tools. Additionally, training can be provided on either an individual basis or within a group environment. To reinforce training and security awareness, ITD offers Security Awareness Briefings to provide both users and IT professionals with enhanced knowledge of IT security. We offer an on-line training course along with a monthly newsletter, ad-hoc messages addressing new vulnerabilities, patches and other specific concerns.

ITE Training Services - Clients may also have custom security awareness briefings provided to address the client specific security needs.

Consulting Services - ITE provides a range of consulting services from network security design to workstation configuration to meet the needs of the clients. Security consulting services address general security concerns, best practices for a secure network, security planning and role-out, and other areas of interest from business continuity to policy development. ITE also can provide security consultation for projects regardless of the nature of the development, whether it is a mainframe, server, or web-based project.

Stages of Development

The enterprise information technology security services have been in place since the development of an executive branch information technology security plan in 1997. Information assurance and security service offerings have been part of the service portfolio since March, 1998. Through its Enterprise Information Security Office, DAS is closely involved in establishing strategic technology tools and recommendations for the State of Iowa Office of Homeland Security.

Future Research and Development

DAS must not only remain vigilant and think of new approaches to potential new problems, it must rethink the current state of operations in information management. What information should be available online about Iowa's energy, telecommunications or water infrastructure? What is the digital security protocol for any or operational access to those systems? Should emergency or crisis response plans be publicly available? While Iowa supports the spirit of open access to government along with fair and full disclosure of public information, we must also reconsider the need to balance those democratic virtues with a heightened need for public safety.

Government Approvals

ITE has a responsibility to provide information assurance and security services to its customers. No government approvals are required to provide these services.

Product Liability

The protection of state government information technology assets requires the cooperation of state agencies, elected officials and the three branches of government. Specific liability may be defined in individual service level agreements.

Production

There are currently 4.0 FTEs assigned to Security as well as a number of computer hardware and software assets for monitoring systems and assessing security threats.

1-B. Desktop / Workstation Services (Marketplace)

Purpose of Service

To provide professional desktop systems and services sufficiently standardized to reduce customer costs and reasonably customized to meet customer needs. This service relieves customers of the burden of maintaining technical skills within their agency that are unrelated to their core mission(s).

Unique Features

Expert Assistance – Customers can capitalize immediately from ITE's collective decades of leading-edge technology experience. All our technicians have many years of experience. We support our customers with best practices learned and experience working with large organizations over long periods of time.

Login, Authentication and Authorization - ITE will resolve authentication issues to the local system as well as server locations. We will initiate requests for folder and file access on secure server locations. Authentication resolutions are dependant on the individual circumstances and resolution times will vary based on the particulars of each case.

Hardware and Software Problem Determination and Resolution - ITE can resolve computer based hardware and software issues. This includes, but is not limited to, the PC system itself as well as

any authorized peripheral connected to that system. Issue resolutions are dependant on the individual circumstances and resolution times will vary based on the particulars of each case.

Remote Problem Resolution - ITE can resolve computer based software issues from a remote location. This service can only be provided to customers who subscribe to ITE's SMS offering. This includes the PC system software itself as well as any authorized peripheral connected to that system. Issue resolutions are dependant on the individual circumstances and resolution times will vary based on the particulars of each case.

History Reporting - ITE will maintain a record of all cases created through the ITE helpdesk regarding costumer issues. ITE will provide issue resolution reports as requested by the customer.

Loaner Laptops - ITE will provide sign-out of laptops. Laptop systems are not top quality and are meant for basis user work ITE will provide standard software on the laptop.

Hardware and Software Testing - ITE will test software and hardware on a non-production system to insure no down time is experienced by the customer. ITE will test compatibility of hardware and software with hardware and software presented by the customer ITE will document any issues discovered during the testing process. ITE will recommend a course of action to best reduce discovered risks. ITE may recommend an alternate or less risky option if available. ITE may restrict access to the "IOWA" domain to insure customer service is maintained based on the test results

Virus Protection - ITE will provide virus protection software per ITE test software and hardware on a non-production system to insure no down time is experienced by the customer. ITE will test compatibility of hardware and software with hardware and software presented by the customer. ITE will document any issues discovered during the testing process. ITE will recommend a course of action to best reduce discovered risks ITE may recommend an alternate or less risky option if available. ITE may restrict access to the "IOWA" domain to insure customer service is maintained based on the test results

Workstation Planning - ITE will provide workstation planning on a request basis ITE may make recommendations as to long and short-term workstation acquisition and rotation ITE may make recommendations as to software use and future software trends ITE may recommend a course of action to best reduce over all costs. ITE may recommend an alternate or less risky options if available.

Disaster Recovery - ITE will configure systems to best expedite disaster recovery when possible ITE may make recommendations as to best practices for disaster recovery. ITE will not be responsible for data that is not stored in accordance with ITE recommendations ITE will not be responsible for personalized setting on a system ITE primary goal will be to return the user to a productive state.

Stages of Development

ITE (and its predecessor agencies) has been providing PC-based desktop support services since the late 1980's. Reorganizations beginning in the late 1990's have positioned this work unit within ITE to be able to provide responsive, professional and competitive desktop support services for a customer base beyond DAS. These services are scalable and extensible to a large customer base within state government.

Future Research and Development
As a marketplace service, priority will be placed on low cost, high quality services that serve the majority of state government business requirements. Remote workstation administration and monitoring will continue to leverage the FTEs in this work unit against a significant customer base, improving the range of desktop support services available and reducing the mean time to repair.

Government Approvals
None required.

Product Liability
Specific liability may be detailed in individual service level agreements.

Production
This service has 6 FTEs assigned as well as $900K in hardware and software assets.

1-C. Help Desk (Marketplace)

Purpose of Service
Account Assistance - Whether you're having trouble signing into your email, dialing up from a remote location, or don't know your system login password, you can contact the ITE Help Desk for assistance.

System and Technology Information - Got a question about a mainframe application or the availability of the internet? We maintain an extensive knowledge base with a vast array of documentation regarding the technology and systems supported by ITE.

Software and Hardware Troubleshooting - Having problems with the network connection office? Does your computer seem to be acting unusual? We can help you determine the problem. The ITE Help Desk maintains a staff trained to help you resolve these and other problems.

Workstation Troubleshooting and Repair - Sometimes you may have an issue that cannot be fixed over the phone. When this happens, we have computer technicians ready to be dispatched for repairs in the field. They are certified for all types of workstation hardware and software support and offer competitively priced services.

Unique Features
The ITE Help Desk staff has administrative access to ITE supported systems and can typically take care of the problem immediately over the phone. Although many of our technology questions are answered on the first call, we have multiple-tier support that offers more in-depth, research-based technical support. This helps ensure that you get the help you need to get back up and running as quickly as possible.

Stages of Development
The help desk has been an integral part of internal operations for nearly two decades. The development of Internet applications to directly provide service to constituents has added to the complexity and driven customer requirements for more responsive problem determination and resolution. The help desk services will continue to evolve as we move further down the path to digital government.

Future Research and Development
Integrating the help desk functions with the common intake system and development of a common trouble ticketing system are initiatives that will improve responsiveness and customer service.

Government Approvals
None required.

Product Liability
Specific liability may be detailed in individual service level agreements.

Production
This service has 3 FTEs assigned.

1-D. Networking / Communications (Marketplace)

Purpose of Service
ITE provides a broad range of network services from campus network connectivity, remote access and troubleshooting to network design and implementation. These services are designed to provide connectivity to services offered by ITE and provide cost effective connectivity between buildings within the Capitol Complex.

ITE's network services are provided over a variety of topologies, including Ethernet, Fast Ethernet, Gigabit Ethernet, Token Ring and ATM. Core data switches in the network are redundant, and such redundancy can be delivered to customer networks, as required.

Multiple levels of redundant firewalls provide state-of-the-art security for applications that require protection while allowing access from the Internet.

Remote access is provided for individual users through dial-up and VPN services, and entire networks can be connected to the Capital Complex in a cost-effective manner through LAN-to-LAN VPN technology.

Engineers with decades of experience in network consulting support these services and are available to provide consulting services to executive branch agencies and other branches of government.

Unique Features
Capital Complex Networking:

Network Ports – Supported types include:

- Gigabit Ethernet, 100Mb Ethernet, 10Mb Ethernet - ITE networking has long supported Gigabit Ethernet in the core of its network at the Hoover Building, and it has upgraded its backbone switches that provide core and distribution routing and switching. These switches also support server load balancing used by ITE's WebSphere web and Trend Micro perimeter-security environments. Gigabit Ethernet also has been extended to the Lucas Building.
- ATM - Years ago, ITE networking replaced its aging Token-Ring campus environment with an OC-3 ATM solution that provides 100Mb Ethernet or legacy 16Mb Token-Ring to its Capitol Complex customers. This environment still is in use but is being supplemented by the emerging Gigabit Ethernet backbone solution.
- Fibre Channel - ITE networking supports a McData-based Fibre Channel fabric for ITE's storage area network within the Hoover Building. ITD networking also supports Fibre Channel from Lucas to Hoover for a SAN customer in Lucas.

Account Features - Included is network routing to services within ITD, as well as to the state's wide-area network and services provided by ICN, such as Internet access. Additional services such as DNS and DHCP are available. Network address translation (NAT) is provided for those using private TCP/IP addresses. The network is proactively monitored for faults and utilization, and a 24-hour help desk is available for problem-

call tracking and resolution. Proxy services are provided for hosts that require additional protection from attacks.

Remote Access Services

Telecommuters, Casual Users and Mobile Staff - ITE remote access solutions provide cost effective secure, convenient, flexible alternatives for accessing network resources.

Dial-In - Dial in service provides access to your LAN, the mainframe, or other resources accessible through the campus network via private phone line and modem. This system uses a secure key (produced using a

CRYPTOCard) to authenticate the user to the system.

Virtual Private Networks (VPN) - VPN (Virtual Private Network) enables IP traffic to travel securely over a public TCP/IP network, such as the Internet, by encrypting all traffic from one network to another. The ITE Network team provides a variety of VPN services:

VPN Client Access - This is a VPN connection between a single workstation and a network. Special client software and personal firewall software are required to be loaded on the workstation. This service uses a secure key (produced using a CRYPTOCard) to authenticate the user to the system.

VPN LAN-to-LAN Access – This is a VPN connection between two networks, typically a firewall or router running firewall code on the customer end, which authenticates to the ITE VPN concentrator environment. ITE can supply hardware at the customer end or help you spec your own. We can also configure your equipment or coordinate all activities with the vendor of your choice.

Customer Benefits - Remote access offers a secure, low-cost alternative for connecting mobile staff, small or remote office locations, or temporary staff or vendors for projects.

Network Consulting Services

Network Design and Implementation - ITE will design and implement networks to meet users requirements in the most cost effective manner. ITE has significant experience in implementing local area networks including routing, switching and multi-protocol support.

Firewall Design and Implementation - Services include needs analysis and recommendation of firewalls appropriate to the anticipated load and growth of traffic. Requirements of applications will also be considered so that the customer will be provided with the firewall that best meets their needs at the lowest possible cost. ITE can also install and manage the firewalls if the customer chooses.

IT Network Architecture Service - ITE will provide analysis of network architecture and an application's impact on a network. This can be used to aid in the design of applications that are efficient in the use of bandwidth to reduce the cost of wide area circuits.

Troubleshooting - ITE can provide a variety of network troubleshooting services. These would include packet analysis to determine the root cause of problems or performance issues.

Advanced Features and Miscellaneous Service

File Transfer Protocol (FTP) and Secure File Transfer - These services allow the transfer of files from outside the network to the inside to be processed. It can also be used to transfer processed files out to external entities. The secure file transfer service allows these files to be encrypted so that the data cannot be observed in transit. This service can be a very cost effective solution when it is necessary to exchange data with external entities. Most entities already have a connection to the public Internet and with a minimal programming effort it is possible to avoid the circuit cost involved with leased lines. This is especially effective with data involved in batch processing.

Mainframe Access via TN3270 - This service allows replacement of departmental SNA gateways with TN3270. Workstations can access the Channel Interface Processor at ITE directly through TCP/IP. This eliminates the need for the department to support and maintain SNA gateway software on a server in their department. Optionally, users can choose to use to access an applet served by a web server that will allow users to access the mainframe through their browser without installing emulator software on their computer.

Temporary Network Access - Network services for temporary needs such as conferences can be set up in most locations on campus. This service can also include access to assets on campus as well as wide area services and the Internet.

Managed Switches/Routers - Departments that wish to contract the maintenance of their network equipment on campus can use this service to provide maintenance, monitoring, upgrades and troubleshooting.

Stages of Development
Engineers with years of experience in network consulting support these services, and these resources are available to provide consulting services to other agencies.

Future Research and Development

ITE has plans to extend Gigabit Ethernet to various customers on the Capitol Complex campus. This technology and ITE's existing ATM campus network allows ITE to provide virtual LANs anywhere on campus, making adds, moves and changes easy and cost effective campus-wide.

Government Approvals
None required.

Product Liability
Specific liability may be detailed in individual service level agreements.

Production
This service has 4.5 FTEs assigned.

1-E. Server Hosting (Marketplace)

Purpose of Service
ITE server professionals provide customers with state-of-the-art server solutions to meet their business requirements and serve constituent needs.

Unique Features
Core Services - ITE makes monitoring, patching, restoring and keeping customer systems up and running as part of the core services provided, at no additional charge.

Operating System Choice – Customers can pick the operating system they want have ITE manage it for them. ITE will configure your system and get it up and running using the customer's choice of AIX, Linux, or Windows 2000 or 2003.

Expert Assistance - Capitalize immediately from our collective decades of leading-edge technology experience. All our servers come performance tuned with the most recent security patches pre-installed. We support applications by providing on-time support and value adding services.

Freedom From Hardware Ownership Problems - Because we own and manage the hardware and operating system, customers will never be locked in to a dead-end hardware platform, or be awakened in the middle of the night to respond to server outages. The majority of server platforms today support industry standard health and operational status applications compliant with SNMP (Simple Network Management Protocol), which aid in the identification of hardware related problems. ITE can provide industry standard support for SNMP Management of server hardware through the used of products such as the HP OpenView Suite and Insight Manager (CIM and CIM7). Notifications and alerts can be sent to the customer via email, alphanumeric pager or cell phones.

Development Servers - ITE makes low-cost development servers available to our customers to provide them with a stable and secure development environment that is VPN-accessible.

Layered Security – Customers can take the worry out of protecting their data from prying eyes, intrusion and theft with ITE's Managed Firewall services. ITE is committed to secure the customer's hosting environment and ensure high availability with our Security Services infrastructure. Customers can choose from cost-effective solutions to redundant, state-of-the art solutions to safeguard their operations.

Dedicated Server - Dedicated servers allow individual customers to have full control over a single server and enjoy the services provided by the ITE Server Farm without the need to develop and maintain their own data center. With ITE Dedicated Server offerings, the customer's initial investment in server equipment and staff are minimal and it reduces the need to manage obsolete or depreciating assets. Services available to the customer include:

- 24 x 7 x 365 SNMP monitoring and alerting.
- Management and deployment of Operating System patches and updates.
- Daily visual checks of server health status.
- Data protection services using Tivoli Storage Management System.
- Console access to server physically, or through remote console support.

- Decreased server deployment time and costs.
- Customer Portal to Server Health Status.

ITE can custom build the server that most closely matches the customer's business needs. Our trained and certified staff has decades of combined knowledge that allow us to design a system that will provide customer's with a reliable, high performance platform on which to host critical applications.

ITE maintains close relationships with key hardware and software vendors to help ensure quick response to problems and the resources required to resolve them quickly and with a minimum of downtime.

Co-Located Server - Co-location is one of the most effective methods to ensure continuous operation of customer server(s). They can rent secure space and reliable network connectivity in our data center and maintain their own equipment. Our co-location services provide the level of customization required to meet customer's unique and growing business needs. ITE can provide them with high-speed connectivity, quality technology, and peace of mind. ITE will work with customers to choose the best solution to meet their current and future needs. Services available to the customer include:

- 24 x 7 x 365 SNMP Monitoring and alerting.
- Management and deployment of Operating System patches and updates.
- Daily visual checks of server health status.
- Facilitate warranty replacement of failed hardware.
- Data protection services using Tivoli Storage Management System.
- Console access to server physically, or through remote console support.
- Customer Portal to Server Health Status.

Remote Management - ITE can provide remote server management for customers that lack trained IT staff. Customization of remote management services ensures the customer obtains support that designed around their individual needs. Remote management of operating system configuration, user account management, and server hardware are available and provided by trained staff.

Server Administration – Services include:

- User Account Adds/Moves/Deletes for:
    1. Microsoft Windows NT4 Domains
    2. Microsoft Windows Active Directory
    3. Novell Network (Bindery and NDS)
    4. Unix, Linux, AIX
- Security Administration (Permissions, Group Policies)
- Operating System Patches and Updates
- Server based Application Management
- Antivirus application support and deployment

Stages of Development
The ITE server farm was developed and offered as a service commencing in 1998. The server farm was developed with a scalable architecture and supports multiple operating system platforms and operating environments (development, test and production).

Future Research and Development
Development of open systems based operating systems platforms as well as maintaining an upgrade path to support current releases of the existing platforms.

Government Approvals
None required.

Product Liability
Specific liability may be detailed in individual service level agreements.

Production
This service has 12 FTEs assigned as well as $350K in hardware and software assets.

1-F. Mainframe Operations Services (Marketplace)

Purpose of Service

ITE operates a mainframe data center that is available for hosting online applications and storing and processing large volumes of data and transactions. The ITE Hoover Building mainframe data center that processes in excess of three and one-half million online business transactions each business day, prints over three and one-half million lines of print (licenses, permits, and reports) and an average of eight thousand state warrants each business day (two million state warrants annually).

Unique Features

Mainframe Processor - One IBM 2066 - 0A2 processor with 8 gigabytes of memory, 100 data channels, and a processing rate of 250 million instructions per second (MIPS).

Data Storage - The Data Center has a total of 1.2 terabytes of disk storage and 6 terabytes of fault tolerant magnetic tape storage in a robotic tape library.

Printers and Forms Processing - There is one impact printer installed with a print speed of 2,000 132 character print lines per minute; one dot matrix printer with a print speed of 1,500 lines per minute; one Xerox 4890 highlight color cut sheet laser printer with a print speed of 92 pages per minute; one Xerox 4635 MICR (magnetic ink character recognition) cut sheet laser printer with a print speed of 135 pages per minute; one Xerox 92C highlight color cut sheet laser printer with a print speed of 92 pages; and one Xerox 96DP MICR (magnetic ink character recognition) cut sheet laser printer with a print speed of 96 pages per minute.

Teleprocessing System - The Information Technology teleprocessing system provides a wide range of services to all departments of state government. These include online data retrieval, data entry, job stream submittal and electronic mail. The teleprocessing system enables users at remote locations to have access, if authorized, to Data Center resources. There are over 6,345 terminals (hardcopy and display screens) connected by the teleprocessing system to the mainframe processor in the Data Center. The Information Technology teleprocessing system handles over 2 million transactions each business day.

Stages of Development

The mainframe has been a mainstay of government operations since the late 1960's. While its' role is changing to more of a "super server", the mainframe is used every business day to conduct millions of online transactions and tens of millions of batch transactions. This high speed, highly secure processing environment still has a high degree of utility in the first decade of the twenty-first century.

Future Research and Development

As "server" class machines become more powerful that traditional mainframes and less costly, the mainframe's future will need to be reassessed in a strategic timeframe (3 to 5 years). ITE will continue to offer high performance information processing options to the customer base on the most appropriate computing platform(s).

Government Approvals

None required.

Product Liability

Specific liability may be detailed in individual service level agreements.

Production

This service has 18 FTEs assigned.

1-G. E-mail (Marketplace)

Purpose of Service

The ITE Exchange Server supports more than 3,650 e-mail accounts for 21 state agencies, boards and commissions. E-mail is an essential communications tool for business and

government operations in the twenty-first century.

Unique Features
The ITE E-mail service provides a secure professional e-mail service to meet governmental customer's business requirements. This service provides:

- High performance, rapid delivery of messages;
- High reliability, zero downtime;
- Low cost of ownership;
- Ease of implementation;
- Ease of use;
- Minimal impact on the desktop;
- Minimal calls to the help desk.

Specifically, the service offers the following features:

Iowa Hub Services - This service provides a directory lookup of basic information on state employees via a "directory synchronization" process of participating State of Iowa government entities. Information, such as e-mail address and telephone number, can be queried using a "global address list", LDAP lookup, or email queries.

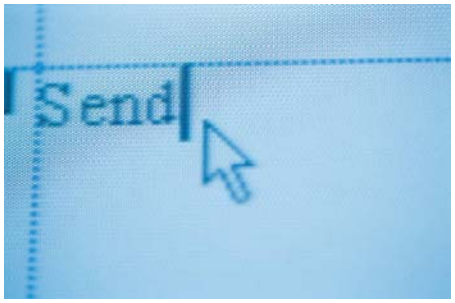
Exchange Account - Microsoft's e-mail software solution using the Exchange mail server located at ITE. This includes electronic calendaring.

Forward Mail to Another Account - Incoming e-mail sent to an Exchange e-mail account will be automatically forwarded (at the request of the customer) to another e-mail account.

SMTP Messaging - Applications can take advantage of SMTP messaging to transmit information between applications and users.

Iowa Mail - Iowa Mail is an email solution that provides access to a low-cost government email system for governmental entities that may not otherwise have access. It allows users to connect using a POP3 or IMAP supported client such as Outlook Express or Eudora. This is an email service only and does not support calendaring or user collaboration.

Stages of Development
The e-mail services have evolved to a highly fault tolerant and secure, competitively priced offering to state agencies. Our professionally certified e-mail administration staff operates a



service based on industry standard best practices.

Future Research and Development
Indexing and storage of e-mail messages in "content management" systems to facilitate the archive, retrieval and destruction of e-mail messages consistent with the agency records retention schedules and requirements of Iowa Code Chapter 22 – Open Records law.

Government Approvals
None required

Product Liability
Specific liability may be detailed in individual service level agreements.

Production
This service has 4.5 FTEs assigned.

1-H. Common Calendar and Directory (Utility)

Purpose of Service
This service is under development and is not currently being offered.

Unique Features

The features of high importance related to an enterprise-wide interoperable calendaring include support for the following functions:

- Individual Appointments
- Recurring Calendar Appointments

- Reminders
- Delegated management of E-mail resources
- Group Scheduling of Meetings
- Resource Scheduling
- Timely updating of free/busy information
- Group/Team Calendars
- Personal Digital Assistant (PDA) Connectivity
- Task lists
- Reasonable Granularity of Time Periods
- Automatic System Clean-up
- Public Calendars

Stages of Development
Such an enterprise-wide calendaring system would require access to a global directory with all state employees listed or the ability to synchronize multiple directories to provide the same functionality as a truly global directory. A desirable adjunct to the availability of such a directory is the development of standardized authentication modules, thereby curbing development of custom authentication methods.

Future Research and Development
ITE is working with the CIO Council to draft appropriate standards related to Common Calendar and Directory.

Government Approvals
None required.

Product Liability
Specific liability may be detailed in individual service level agreements.

Production
This service has 1 FTE assigned.

1-I. Iowa Financial Accounting System (IFAS) (Utility)

Purpose of Service
To support the SAE enterprise accounting business area and the GSE procurement business area.

Unique Features
Governmental accounting and procurement rules must be met.

Stages of Development
IFAS was implemented in 1983. It has been updated several times throughout the years to better meet the changing technical and business environments. Functionality has stayed constant.

Future Research and Development
IFAS will be replaced by I/3 within the next year.

Government Approvals
SAE and GSE rules must be met, State audit requirements must be met, and State & Federal laws must be followed.

Product Liability
Warrants for many State business areas are created from IFAS that must be accurate. State accounting must be accurate. Procurement rules must be followed. Consequences are very high if processes in IFAS aren't accurate and timely.

Production
The Technology Customer Council will be reviewing IFAS and setting rates for FY05. This will drive many of the items in this area.

1-J. Human Resource Information System (HRIS) (Utility)

Purpose of Service
To support the SAE enterprise payroll business area and HRE Human resources and benefits business areas.

Unique Features
Governmental human resources, payroll, and benefits rules must be met.

Stages of Development
Much of the processing in this area is done from very old systems some have been in place since the late 1970's. We have patch worked changes and new portions in throughout the years as new requirements are defined

Future Research and Development
HRIS will be replaced by I/3 in approximately one year.

Government Approvals
SAE and HRE rules must be met. There are also many union requirements. Federal and State laws must be followed.

Product Liability
Payroll and employment rules must be followed. W2's must be accurate. Tax laws must be followed. Consequences are very high if processes in HRIS aren't accurate and timely.

Production
The Technology Customer Council will be reviewing HRIS and setting rates for FY05. This will drive many of the items in this area.

1-K. I/3 (Integrated Information for Iowa) (Utility)

Purpose of Service
To support the SAE enterprise payroll and accounting business areas, the HRE Human resources and benefits business areas and the GSE enterprise procurement business area.

Unique Features
Governmental accounting, procurement, human resources, payroll, and benefits rules must be met. This system is geared toward meeting governmental needs. There are many smaller business areas that are also available for meeting department needs as well as the statewide needs. They are: inventory, accounts receivable, fixed assets and cost accounting.

Stages of Development
The Budget preparation, Accounting, and procurement components will be implemented in late FY04. There will be several of the smaller components piloted with this implementation. Throughout the next year we will expand implementation of the new business areas and include additional agencies. We will assist agencies to redesign business processes to take advantage of some of the system workflow.

In late FY05 we will be implementing the human resources, payroll and benefits components.

When the entire I/3 functionality is implemented our focus will be to upgrade to stay current in all business areas, to assist departments with taking advantage of full functionality, and to keep the technical environment as current as possible.

Future Research and Development
When the entire I/3 functionality is implemented our focus will be to upgrade to stay current in all business areas, to assist departments with taking advantage of full functionality, and to keep the technical environment as current as possible.

Government Approvals
SAE, HRE, and GSE rules must be met. There are also many union requirements. Federal and State laws must be followed.

Product Liability
Payroll and employment rules must be followed. W2's must be accurate. Tax laws must be followed. Consequences are very high if processes in HRIS aren't accurate and timely.

Warrants for many State business areas are created from IFAS that must be accurate. State accounting must be accurate. Procurement rules must be followed. Consequences are very high if processes in IFAS aren't accurate and timely.

Production
The Technology Customer Council will be reviewing I/3 and setting rates for FY06. This will drive many of the items in this area.

1-L. Public Key Infrastructure (Utility)

This service has not been developed and deployed due to an insufficient business case to support its' operation.

2 and 2-C. Application Development and Web Services (Marketplace)

Purpose of Service
The application development and web services group of ITE is responsible for the development and maintenance of software applications. This includes everything from analysis through deployment of a system. ITE has experience in a variety of technologies including desktop applications, web-based systems, web services and applications services such as our e-Payment and Enterprise Authentication and Authorization service. In addition to developing new systems, we have experience taking over maintenance of existing systems. Our core language competencies include Java, .NET, PHP, ASP and Visual Basic. Our applications are capable of hitting a variety of back ends including DB2, SQL Server and MySQL.

Unique Features
ITE has a solid software development lifecycle that enables us to deliver high quality software solutions using a process that is consistent and repeatable. When appropriate we employ the use of open source software in our solutions to help lower the cost and time to market for our customers. Another differentiator is we have extensive experience building applications that access mainframe data via the web. Finally, we have one of the most secure development, testing and production environments for our entire Internet based systems that allows new development, end-user testing, and execution of production system to happen concurrently.

Stages of Development
ITE's Application Development and Web Services group has been around for a number of years.

Future Research and Development
The application development and web service group at ITE is always forward thinking.

Government Approvals
None.

Product Liability
Varies from one customer project to the next and is negotiable in the Service Level Agreement.

Production
Varies from one customer project to the next. However all projects have at least one project manager who is responsible for manage the cost and schedule, at least one architect responsible for the design of the system and typically more than one developer to do the programming and unit testing.

2-A. Mainframe Development Services (Marketplace)

Purpose of Service
Services provided by mainframe systems include the core services of human resources, payroll, accounting, budget, related satellite systems, and billing systems. These are all legacy systems that affect all departments and employees and are in daily use. Other systems currently on the mainframe (as of December 2003) are Iowa College Aid systems, vehicle dispatch and risk management, and licensing systems. Core competencies for these services include proficiency in mainframe languages such as COBOL and CICS, the CA-IDMS suite of products, which includes an online language and related utilities, JCL, and subject matter experts. Other required competencies are in the software support area.

Unique Features
For the most part, employees supporting these services are not only competent in the languages and utilities, but are subject matter experts. This allows them to work more efficiently because they understand the underlying rules, and work more on a peer basis with customers.

Stages of Development
Most of the mainframe systems replaced manual operations. The systems range in age from 8 to more than 30 years. Some systems are purchased software, modified to fit our needs, but most are "homegrown".

Future Research and Development
Some systems are constantly evolving as changes are requested. Parts of the HR, payroll, accounting, and budget system are in the process of being replaced by the statewide ERP system purchased from AMS. Some parts of those systems will remain on the mainframe. No plans exist for replacement of the other systems.

Government Approvals
Access to much of the data is controlled by State and Federal laws, depending on its statutory designation.

Product Liability
All systems have service level agreements with the customers for outages, problem resolution, etc. Disaster recovery plans are also in place.

Production
- Staffing requirement: 9 FTEs
- Training required in Cobol, CICS, CA-IDMS, SAS, OLQ, Culprit & JCL.
- Staff requirements: 9
- Specialized equipment/facilities: Depends on the platform selected for the application
- Specialized training/certifications: Knowledge of Cobol, CICS, CA-IDMS, OLQ, SAS, Culprit, JCL.
- Vendors/contracts: IDMS vendor is Computer Associates, Mainframe vendor is IBM

2-B. Database Services (Marketplace)

Purpose of Service
Database Services support the Database Management Systems (DBMS) that are used to store the State of Iowa's data. Support includes:

- Research/proof of concept
- Install/upgrade software
- File backup/recovery
- Problem resolution
- Performance monitoring/tuning
- Security
- Journal integrity
- Metadata integrity
- Dictionary/catalog integrity
- Automation/task scheduling
- Database design
- Data access design
- Database definition
- Metadata definition
- Changes (expansions, restructures, etc.)
- Programming support
- End user support

ITE provides a variety of quality database solutions to meet all spectrums of the cost/benefit/performance needs of our customers. From small to large, transactional to data warehouse, ITE has the platforms to meet your needs.

Access to data is the critical element in today's information age. Whether you are deploying a simple intake system through the web or a complex data warehouse for decision support; data storage, maintenance and retrieval are the core elements of success. ITE has established several enterprise platforms with a variety of options so our customers' can choose the best database solution that meets your business and availability requirements.

Unique Features
ITE Database Services staff has many years of experience with state government customers and their data and applications. The staff is on-site and immediately available to assist with questions and problems.

Managed solutions are available for those customers who want turnkey database support. With a managed solution, ITE manages and maintains all aspects of your database, beginning from help with development all the way to production. ITE ensures your database performs

as designed. Managed solutions are offered on MySQL, SQL Server 2000 and DB2 platforms and are available on both mainframe databases (IDMS and CA Relational). ITE begins working with customers during the application and database design stage of their project and our support continues through the life cycle of their database.

DB2 - Specific Features include:

- Disk space allocation
- Daily back-ups
- Database restores
- Database design review
- ODBC connections
- 24/7 monitoring
- Highly-available environment for DB2 (automatic fail-over with redundant network connections)
- Full database performance monitoring and reporting
- Located in firewall-protected database zones
- Access to both test and production environments
- Database tuning
- Platform migration from development to test to production
- Capacity Planning
- Performance testing

Co-location, dedicated and remote management services are also available for all our server-based database solutions. The features provided under a co-location, dedicated or remote managed service are established through a Service Level Agreement. Contact an ITE service representative for more details.

Additional Service Options - In addition to the features above, ITE also offers the following services:

- Consulting
  - Requirements analysis
  - Security analysis and planning
  - Design review for Customer-designed database(s)
  - Project management
- Development
  - Database Design; Logical and/or physical
  - DDL generation
  - Data loading; test and production
  - Application interconnects
  - Platform upgrade (e.g. SQL 7.0 to SQL 2000)
- Maintenance
  - All maintenance activities included with a managed solution

An ITE managed solution enables our customers to focus on their business instead of the underlying technology.

ITE Mainframe Database Options - ITE offers two database platforms on our mainframe: IDMS and CA-Relational.

Mainframe Option - Many of our Customers currently use the mainframe for mission-critical applications. These options enable customers to leverage internal resources in a familiar environment. Instead of deploying an application and linking two different database platforms, Customers may find it more cost-beneficial to create a mainframe database in support of their current transactional systems. Another reason for choosing a mainframe option is sheer power. While server-based databases perform quite well, mainframe performance is a step-above. So if you need to support thousands of queries per hour, you may want to consider a mainframe solution.

Integrated Database Management System (IDMS) - IDMS provides a rich development environment including support for COBOL, ADS, CICS, Active Server Pages, Visual Basic, and Java programming. It can be accessed not only through mainframe screens but also through a host of windows and Unix-based systems. Connectivity is provided through ODBC drivers, JDBC drivers, and MQSeries. IDMS mainframe environment also includes a very robust back-up and recovery capability. Additional features include those in the managed systems.

CA-Relational - CA-Relational is a truly relational database, just like SQL Server, DB2, etc. It allows you to combine the flexibility of a relational database with the processing power of the mainframe. Programming languages include Active Server Pages, Visual Basic, Java, COBOL, and ADS. CA-Relational is good solution for leveraging mainframe expertise to provide modern features such as web access.

Data Warehouse - There are many parts to a Data Warehouse. Construction of a data warehouse differs from a traditional transactional database

in several ways. A data warehouse is built as application neutral as possible. Additionally, data may be stored in a redundant manner to support better performance and reporting in a structured environment. A data warehouse database is the central database used for reporting and other analytical type activities. It can be supported with one or more data marts, designed to specifically meet a detailed end-user need. ITE supports both Entity-Relationship and Dimensionally modeled databases on all three data warehouse platform options, SQL Server 2000, DB2, and Teradata.

Rationale for Three Database Platforms - Not all data warehouses are equal. A departmental data warehouse database may be hundreds of gigabytes with billions of rows in the fact tables or as small as 1 gigabyte with a couple thousand fact rows. Each platform option provides different performance options with significant variations in cost.

The Teradata is designed for Terabyte size databases and offers a host of features, specifically a massively parallel processing system. DB2 can efficiently support a wide range of database sizes, from a gigabyte to over a terabyte. Additionally, DB2 is offered in a highly available environment for mission-critical applications along with separate development, test and production systems. SQL Server 2000 targets small to medium sized data warehouse databases, from sub-gigabyte to about 500 gigabytes. The SQL Server environment is designed to provide a high-level of scalability through the use of blade server technology and Storage Area Network connectivity.

About the Teradata Solution - The Teradata Relational Database Management System (RDBMS) is housed on a NCR World Mark 4800 Unix dual node server with 8 processors and a 360-gigabyte, Redundant Array of Independent Disks (RAID) level 1. The single platform supports all development, test and production activity, has a both mainframe and server-based ETL tools, and has a fiber connection to the mainframe. Specific features include:

- Full Customer Data Base Administrator (DBA) access within assigned space. No system DBA rights.
- Full original equipment manufacturer (OEM) warranty support and maintenance.
- Firewall protection.
- Unlimited database objects.
- ODBC connectivity for application tools and programming.

About the DB2 Solution - ITE established the DB2 platform option as part of the Integrated Information for Iowa (I3) project. DB2 provides the level of availability of all our platform options. This system provides both internal and SAN storage to provide a complete level of scalability. This solution offers separate production, test and development regions and is offered only as a managed service. The DB2 environment, similar to the Teradata environment, does not include a specific data staging platform. This service can be added if you need. The specific features include:

- Full DBA support and managed migration of changes.
- Unlimited end-users through either direct query software or access tool.
- Full OEM warranty support and maintenance.
- Firewall protected.
- Separate development, test, and production regions.
- Unlimited database objects.
- ODBC connectivity for application tools and programming.
- RAID 5 data storage and SAN.

About the SQL Server Solution - The SQL Server 2000 platform provides the highest degree of flexibility we can offer our customers. This solution provides all the components necessary to accomplish data warehousing; production server, staging server, terminal services access to the servers with full DBA rights within your assigned space, and can scale independently of the other users to meet your specific needs. The base configuration includes all SQL Server 2000 components available through the enterprise edition including support for OLAP cubes and Analysis Services. This platform was designed

to support data warehousing from an entry level to a fully built data warehouse deployment with databases up to 500 gigabytes. Depending on how the data warehouse is deployed, database sizes in the Terabyte size range can be supported on this platform. The specific features include:

- Full DBA rights within assigned user-space.
- Unlimited end-users through either direct query software or access tool.
- Full OEM warranty support and maintenance.
- Firewall protected.
- Includes production and staging environment.
- Local or central database development environment are supported.
- Unlimited database objects.
- ODBC connectivity for application tools and programming.
- RAID 5 data storage and SAN.

Stages of Development
Database Services began in the early 1980's. The first DBMS offered was IDMS on the mainframe. As the need for Midrange platforms increased, ITE offered DB2, SQL Server, and MySQL DBMS support. For data warehousing needs, ITE offers Teradata, DB2, and SQL Server. ITE also offers support for middleware products such as CA-Server and MQSeries, which are used to access legacy information on the mainframe.

Future Research and Development
Continued use and development of relational data base management systems as well as enhanced data mining and reporting tools. The Enterprise Data Warehouse enables two critical activities: combining data from diverse IT systems within an organization and sharing data across organizational boundaries. By using the data warehouse, data extraction and updating is streamlined and an organization can authorize other personnel to access data directly and generate analysis. This saves significant time and resources.

Government Approvals
Access to much of the DBMS data is controlled by State and Federal laws, depending on if the data legislated as public information or confidential information.

Product Liability
The type and volume of the data and the critical nature of the applications relying upon the data base services requires ITE maintain a high degree of integrity in the security and reliability of these systems. Specific liability may be detailed in individual service level agreements.

Production
- Staffing requirement: 12 FTEs
- Specialized equipment/facilities: Depends on the platform selected for the application
- Specialized training/certifications: Each DBMS supported requires extensive specialized training.
- Vendors/contracts: IDMS vendor is Computer Associates, DB2 vendor is IBM, SQL Sever vendor is Microsoft, Teradata vendor is NCR. MySQL vender is MySQL.
- $2.5 million in hardware and software assets.

Web Hosting Services (Marketplace)

Purpose of Service
Information Technology Enterprise (ITE) provides quality web hosting services to the State of Iowa organizations, delivering up-to-date web and streaming media content to thousands of citizens daily. Our web hosting products include static web hosting, self-publishing solutions, managed application hosting, and dedicated hosting and co-location services. In the static, self-publishing and managed web hosting environments, ITE utilizes the concept of shared web hosting. Shared web hosting is the technology of hosting multiple websites on a single server, separated logically from each other, but physically on the same machine.

Unique Features
Web Hosting - ITE's static web hosting service is the key to rapid implementation of a professional, secure, and reliable Web presence. IOWAccess will put customer content on the Internet quickly and reliably, and keep it there. Customers maintain total control over their web

content while ITE looks after setting up and maintaining the necessary infrastructure. Our IOWAccess hosting service offers free static web page hosting to qualified customers. Whether customers are new to web publishing, or just looking for a free no-frills presence on the web, IOWAccess is available for hosting static content. Features and Services include:

- Set up of customer Web server account. http://www.CustomerAgency.com/.
- Set up of customer access account using FTP or a secure connection via WinScp.
- 100 megabytes free storage space for customer web pages with 1GB of data transfer.
- Password protected FTP/WinScp access to customer web server to update customer web pages to read customer web access log files.
- Transfer of domain name services to IOWAccess servers.
- Migration co-ordination to ensure smooth cutover, if necessary.

Web Hosting Service Key Points - The customer's web server is set up, managed, and maintained locally by ITE personnel using IOWAccess equipment. Customers maintain instant and complete control over their web content. Using password protected FTP, customers can instantly modify or add to their web content whenever they wish. Customers can perform daily incremental tape backups to ensure recoverability in the event of a server failure. Any support and assistance required can be provided quickly and reliably. Customers are provided with detailed and timely statistical reports on accesses made to their website. If their needs expand to a requirement for dynamic web page creation using database and other advanced features, ITE stands ready to implement a leading edge solution.

Self-Publishing - Customers maintain total control over their Web content, ITE looks after setting up and maintaining the necessary infrastructure. Features include:

- Development environment which mirrors production gives customer a solid "real world" platform in which to test customer applications before "going live"
- Administration console allows customer to publish all of their site, or simply a file or two.
- Publish according to customer's own schedule, as often as the customer likes.
- Multiple publishing methods are available
- Specialized environments such as Linux or Windows are available.
- Environmental flexibility is much greater than in a static hosting environment.
- Shared resources mean significant ROI vs. running customer own round-the-clock data center
- 24/7 helpdesk support that keeps business-critical applications in business
- Interactive Customer Portal provides answers to common questions
- Multiple database support

Functionality - By supporting multiple operating systems, databases and programming languages in a robust feature rich environment, customer are never left wondering if customer current project will "fit" in the hosting environment. We use the most current software versions, giving customers maximum stability and security.

Flexibility - ITE's self-publishing environment can accommodate users of Microsoft Front Page 2000, as well as FTP or SCP. The self-publishing method is a very cost-effective solution for users who do mostly static HTML, ASP or PHP web pages. For ease of development, an independent development environment is optionally available for testing code before copying it to production. The ability to self-publish gives customers the advantage when they need to keep pace with media attention or rapidly changing circumstances.

Managed Hosting - ITE's effectively uses customer partnering by providing a seamless extension of the customer IT staff. Internal customer resources are now free to focus on

core-business needs and competencies. Key Features include:

- Shared resources mean significant ROI vs. running customer own round-the-clock data center
- Flexible, building block approach that lets customers select only the services they need
- Allows customer to focus on customer core business
- Cost effective way to support web-enabled applications
- Operational Excellence (expertise, processes, tools) drives costs out, yielding even greater return
- 24/7 helpdesk support that keeps business-critical applications in business
- Customer portal that keeps customer in the know and in control

Application Hosting / Full Application Hosting - ITE application Hosting can help customers streamline and simplify their everyday tasks by providing customers with a cost-effective hosting environment that ensures the highest level of performance, availability, scalability, and security for their business critical applications. We host the applications customers need and they take advantage of the technology without any installation or maintenance concerns. ITE manages the underlying application infrastructure: servers; network connectivity; security, networking, storage, and redundancy devices; the operating system; and the web and application server layers. ITE also provides database management services, and full application-level monitoring and management services.

Professional Services - ITE offers one of the most comprehensive professional services product lines in the industry, from backup administration, network and security services, server administration, as well as the data warehousing and web server load testing.

Business Continuity / Operations Management - Architectural & capacity planning, along with complex problem management, are helping meet current and anticipated needs. Business Continuity and Disaster Recovery has become an integral part of every e-Business operations plan. ITE's Business Continuity solutions provide customer with end-to-end incident management that takes the appropriate escalation and corrective action steps.

Performance Monitoring - Applications are monitored around the clock, via:

- Centralized alert processing, collecting and aggregating alerts across multiple environments.
- Synthetic transaction monitoring, checking for latency and malfunctions that can impact user productivity.
- Automatic remediation technology, helping ensure reliability through "no hands", real-time intervention of known issues.
- Automated escalation management, streamlining routine tasks and cutting precious time off critical escalation flows and helps ensure rapid resolution.

Media Services - The Information Technology Enterprise offers a range of cutting edge multimedia solutions including on-demand video streaming, live video streaming broadcasts, and media asset management. Whether customer need to deliver customer content to a few select clients within the State of Iowa, or users around the world, ITE's enterprise multimedia solutions have been developed to provide 24x7 access to the highest quality video and audio content anywhere for the lowest prices.

On-Demand Video Streaming - If customer need to deliver customer important audio and video content anywhere at any time, customer need the most advanced streaming technology available today. ITE maintains parallel Windows Media and Real Networks load-balanced operating environments with access to multiple terabytes of storage dedicated to streaming audio and video. With fast connectivity to the Iowa Communications Network and to the Internet, ITE provides on-demand video streaming services to highly visible customers such as the Governor's Office and Iowa Public Television.

Live Video Streaming - Need to broadcast a live event over the Internet? Contact ITE to encode and broadcast ICN sessions, on-location events, and television feeds in real-time to users anywhere in the world. Using the fastest, professional-grade encoding equipment, ITE can provide multiple concurrent Windows Media and

Real Networks video and audio streams at different speeds with the potential to deliver more than 2000 simultaneous feeds. ITE has considerable public sector experience with fast connectivity and a load-balanced environment serving customers like the City of Des Moines, Department of Natural Resources, Iowa Public Television, and Department of Public Health.

Media Asset Management - When customer need an effective way to manage customer media assets, there's no better tool than the industry-standard Virage Solution Server. Capable of indexing thousands of hours of media content, the ITE Virage solution can provide customer with granular access to customer media. Whether customers need a fast way to find a specific piece of media, key frame access to customer content, or a way to index the transcripts of customer vital media assets, ITE's Virage solution is the key to managing customer online media and ancillary materials. Contact ITE to add Virage services to customer website today.

The Information Technology Enterprise provides all the tools customer need to add video and audio content to customer Internet presence. Our enterprise-class multimedia service offers the performance and reliability needed for today's critical media delivery applications. Whether customer need live broadcast services, on-demand video hosting, or media asset management, ITE provides the best service at the most competitive prices anywhere.

Hosting Solutions - Our Dedicated Servers offer the convenience of faster processing, more disk space and RAM than shared hosting. We custom build and maintain servers specifically designed for customer business functions. Customers no longer have to worry about managing the hardware or operating system – ITE does. When it comes to hosting performance and comprehensive customer service, we far surpass the competition.

Core Services - ITE makes monitoring, patching, restoring and keeping customer systems up and running part of the core services we provide, at no additional charge.

Operating System Choice – Customers pick the operating system they want and ITE manages it. ITE will configure customer systems and get them up and running using the customer's choice of AIX, Linux, or Windows 2000 or 2003.

Managed Hosting Saves Customers Money – ITE can host the customer's own servers in-house and free them from owning, repairing, monitoring and managing hardware and operating systems. Customers can get started with no significant capital expenditure required.

Vast Scalability – ITE takes a "smart-growth" approach to customer server needs: build only that which customer needs now, and simply add more capacity as customer performance requirements change. ITE's scalable network and hardware architecture is designed to easily add and subtract servers and managed services.

Expert Assistance - When customers need an effective way to manage their media assets, there's no better tool than the industry-standard Virage Solution Server. Capable of indexing thousands of hours of media content, the ITE Virage solution can provide customers with granular access to their media. Whether customers need a fast way to find a specific piece of media, key frame access to customer content, or a way to index the transcripts of customer vital media assets, ITE's Virage solution is the key to managing customer online media and ancillary materials. ITE provides all the tools customer need to add video and audio content to customer Internet presence. Our enterprise-class multimedia service offers the performance and reliability needed for today's critical media delivery applications. Whether customers need live broadcast services, on-demand video hosting, or media asset management, ITE provides the best service at the most competitive prices.

Freedom From Hardware Hassles - Because ITE owns and manages the hardware and operating system, customers will never again be locked in to a dead-end hardware platform, or awakened in the middle of the night because of server outages.

Development Servers - ITE makes low-cost development servers available to our partners to provide them a stable and secure development environment that is VPN-accessible.

Layered Security – ITE takes the worry out of protecting customer data from prying eyes, intrusion and even theft with ITE's Managed

Firewall services. We are committed to secure customer hosting and ensuring high availability with our Security Services infrastructure.

Stages of Development
ITE offers state-of-the-art web hosting and multimedia web-based support services. This provides a wide range of highly functional web services "in-house" and immediately accessible to state agencies.

Future Research and Development
By sharing a single high-powered server's resources, administrative costs are shared across multiple websites and each customer pays a much smaller fee compared to owning and managing a dedicated server. Website performance is typically much greater on average with high-powered shared machines versus a single lower powered server. For most websites, we will be encouraging this approach as the most cost effective way to obtain World Class web services.

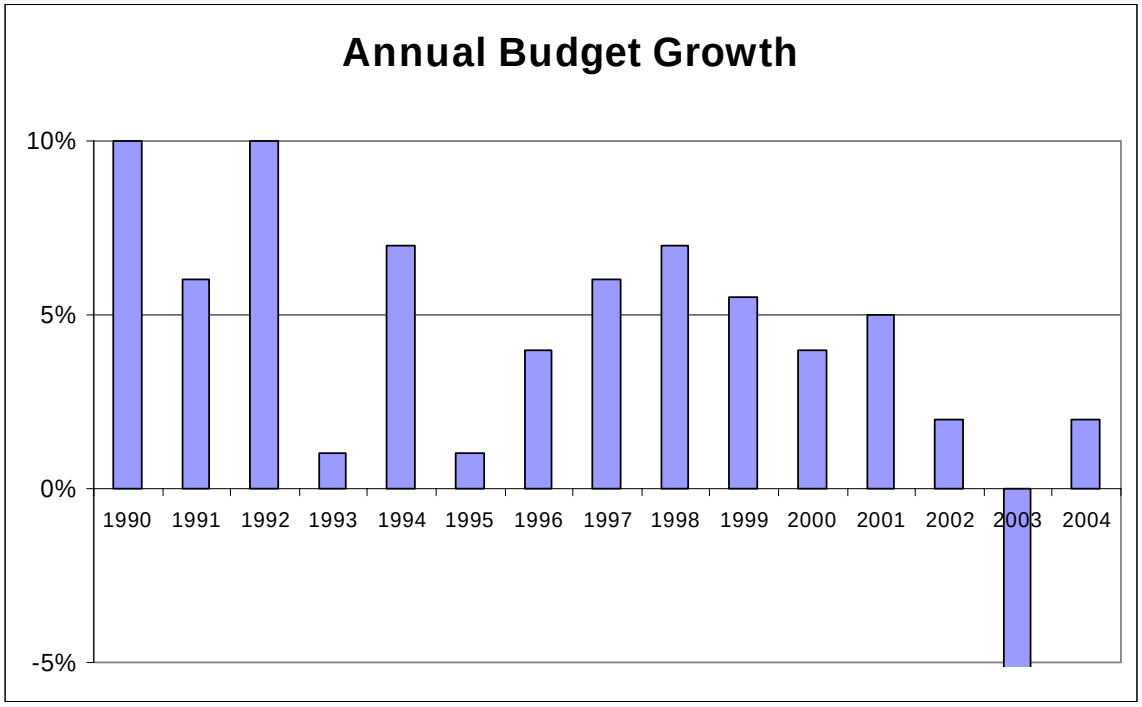
Government Approvals
None required.

Product Liability
Specific liability may be detailed in individual service level agreements.

Production
This service has 5 FTEs assigned.

Appendix 3. Iowa's Financial Picture, Budget Reform, and Performance Audits

Prior to Fiscal Year 2002, the State of Iowa had only experienced an actual reduction in spending compared to the previous year once, during the farm crisis in 1987. However, in each of the last three Fiscal Years, Iowa's general fund spending has been below the previous year. In fact, the 5.7% reduction in the Fiscal Year 2002 budget was the largest percentage reduction of any of the fifty states, according to the National Conference of State Legislatures. The following chart illustrates this dramatic change in Iowa's budget experience:



The State of Iowa has utilized a variety of measures to reduce spending. These include two rounds of an early retirement program, voluntary wage concessions by the States largest state employee union, and extensive restructuring and consolidation of executive branch departments. As a result, the State executive branch workforce is now 7% smaller than it was on July 1, 2001. At the same time, the vast majority of Iowa's general fund spending is dedicated to a few key priorities. Education makes up over 60% of the budget, and children, family and senior services (primarily health care) make up another 17%. When local assistance is added in (which translates into money for local fire and police protection, among other things), this represents 84% of Iowa's general fund budget. As medical and other costs continue to increase, it is extremely challenging to keep pace with the demand for quality services with continually fewer tax dollars.

Iowa has also managed revenue shortfalls without the use of debt financing or accounting tricks, which have been utilized in a number of States. These sorts of budget balancing ploys have been criticized on numerous occasions by the national rating agencies. It is notable that both of the premier national rating agencies, Standard and Poor's and Moodys Investors Services, continue to

give Iowa their second highest rating, AA+ and Aa1 respectively, and both continue to list Iowa's financial outlook as stable. In contrast, among our neighboring states, Illinois, Wisconsin, and Minnesota have all been subject to ratings downgrades in the past three years.

Iowa government has done an excellent job of managing its finances. Levels of spending are below national averages, and Iowa has balanced its budget without resorting to gimmicks or tricks that end up costing states in the long run. However, continued reductions in revenues are making it increasingly hard for the states as a whole to maintain essential services with current revenue structures.

Accountable Budget Reform – Purchasing Results

Purchasing Results is a new way of budgeting that focuses on what Iowans get for their tax dollars. All state spending is tied to buying results in six key areas:

1. Transforming Iowa's economy
2. Improving student achievement
3. Keeping Iowans healthy
4. Ensuring Iowa's communities are safe
5. Preserving the quality of our natural resources
6. Increasing government accountability.

For each of the six results, a small 'buying team' recommends how they would spend the state's scarce resources to maximize results. State agencies and others who receive state dollars have been asked to think of themselves as 'sellers' in the results marketplace. Their job is to make creative offers to the buying teams that will help produce the outcomes Iowans want. ITE, as a strategic partner, has participated in the development of a number of these offers for the DAS Core and customer agencies throughout the executive branch.

For the first time in January, 2005 the Governor presented the Legislature with a prioritized list of every offer received along with the evidence-based rationale for the priority order that was chosen. This gave legislators a better understanding of the outcome that can be expected from spending more or less money in order to achieve a particular result. Since this is the first year of the Purchasing Results budget program, ITE has no way of assessing its impact on the budgets of its customers.

Agency Performance Audits

Government is better at adding new activities than at critically evaluating them later. Iowa has instituted program reviews to evaluate effectiveness and recommend improvements in state programs. Iowa Excellence is an assessment tool designed to measure performance and lead to improved customer service and operational efficiencies in state government. Agencies examine their performance once every three years using Malcolm Baldrige National Quality Program criteria. They look at:

- How an agency sets and communicates direction and supports key constituencies;
- How the agency looks to the future;
- How customers and their requirements are identified;
- How data are used in decision-making;
- How the agency develops employees and encourages innovation and learning;
- How day-to-day operations are managed and improved; and
- The results achieved.

The Malcolm Baldrige National Quality Program Office is currently developing criteria for government and non-profit organizations. Consequently, the Baldridge criteria and guidelines for conducting the Baldridge performance audits is being rewritten. This means that the Information Technology Enterprise (and most of its state government customers) will need to perform the performance audit in 2006.

Appendix 4. Information Technology Enterprise Issue Scan

ITE Issue Scan Prediction: By 2006, 35 percent of all government jurisdictions with feudal or federated IT governance styles will vest greater authority and accountability in the CIO and central IT organization (***0.7 probability***).

Key Findings:

- IT expenditures increasingly attract the attention of government CEOs, councils and legislatures.
- A primary cause for this attention was the greater budget scrutiny that began during the economic recession.
- In the past 18 months, four states have moved to centralize core IT infrastructure and common services functions, and have placed more authority in the CIO position.
- The U.S. federal government has placed specific powers and duties in the hands of the CIO and has required stringent processes to demonstrate that IT investments enhance business performance.

Implications: Decentralized IT portfolios, infrastructures and project management will invariably result in government inefficiency and ineffective leadership. Maintaining the status quo will lead to CIO replacement or independent legislative action to resolve problems. Feudal IT governance places decision rights authority in all agencies and departments. Federated governance spreads decision rights authority among agencies and the central IT organization, often with a representative governance board charged with making decisions.

Advice/Recommendations: CIOs should maintain operational performance monitoring to obtain quantitative data that will support decisions to change current conditions. They should take the lead with the Governor and legislatures to redesign governance structures or centralize IT organizations when performance data supports these actions.

"Leveraging the enterprise" is another way of saying that we must deliver IT services better and cheaper than we have ever done before. Enterprise leverage is the process of discovering where the enterprise can take advantage of synergies that exist between agencies, boards, and commissions. It is through the sharing of expertise, the transfer of best practices, the common use of infrastructure, the sharing of application development resources, and deployment of enterprise resource planning systems (ERP) that the value is gained. The goal of enterprise leverage is to decrease the overall cost of IT while increasing service levels. Addressing the perplexing electronic records management issues facing state agencies is an example of this.

Creating standards and policies is an important IT activity that forms an architectural blueprint for guiding the building of the enterprise's overall IT infrastructure, including agency purchased or built components. Standards and policies play an important role in establishing an IT infrastructure that is highly scalable, reliable, available, manageable, and secure. Standards and policies also prevent unnecessary delay in implementing IT applications and other improvements while ensuring that applications can work together, even when such cooperation is not explicitly foreseen.

Because standards and policies affect each agency and, in general, are ultimately supported and paid for out of agency budgets, their creation and approval must be closely coordinated using a federated model.

Building a world class IT organization requires world class IT infrastructure. A world class IT infrastructure must have the following characteristics:

- Aligned with business needs
- High reliability, availability, and security
- High customer satisfaction
- Well established metrics
- Cost effective
- Data integrity

ITE Issue Scan Prediction: By 2006, political and economic factors will drive 80 percent of public-sector investments in **o**pen-**s**ource **s**oftware (OSS) (***0.8 probability***).

Key Findings:

- The use of OSS is expanding in the public sector.
- In some cases, such as Linux on the server, Web server and the network edge, these choices are made to reduce dependencies on key vendors and decrease the total cost of ownership (TCO).
- Other broad initiatives remain influenced by policy considerations, which explain the significant regional variations.
- In Europe, governments are trying to rejuvenate the local software industry through a combination of greater R&D incentives and favorable policy measures.

- In the United States and other countries where Microsoft is a significant player in local economic development, the debate is less intense.

Implications: OSS migrations by local governments in 2005 will expose the TCO of OSS. This experience will better inform decisions beginning in 2006. However, political considerations will remain important, and must be weighed alongside economic, financial and technical factors.

Advice/Recommendations: Public-sector CIOs should only move in the direction of OSS only after developing solid OSS business cases that balance policy vision and sound business judgment. A non-sponsored April 2004 Yankee Group Report entitled 'Linux, UNIX and Windows TCO Comparison' stated: "More than 90 percent of the 300 large enterprises with 10,000 or more end users indicated a significant or total switch from Windows to Linux would be prohibitively expensive, extremely complex and time-consuming, and would not provide any tangible business gains for the organization.

The survey also indicated that most large enterprises will stick with their current server operating systems and not switch to Linux. Only 4 percent of UNIX customers and 11 percent of Windows businesses plan to replace all their servers with Linux. In addition, less than 5 percent of organizations will replace their Windows desktops with Linux."

ITE Issue Scan Prediction: By 2007, 70 percent of all levels of Western governments will double the turnover of new employees due to worker dissatisfaction with the technology infrastructure (***0.8 probability***).

Key Findings:

- Much attention has been focused on capturing knowledge from an aging workforce.
- Little has been done to understand the needs of the incoming workers.
- The next generation of workers has grown up and been educated in a collaborative, connected environment.

Implications: The generation that is about to enter the government workforce thinks differently. They use cellular phones and instant messaging as a matter of course. Facts are available in seconds from online resources. Projects are done in teams. High school and college campuses have wireless access in common areas. Dormitory rooms have broadband access. In the meantime, governments treat IT as overhead, and consider Internet access too easy to abuse and instant messaging a time waster. However, the incoming workforce expects to be able to work "anywhere, anytime." It is accustomed to receiving information in seconds, not in quarterly reports. It will not work in an environment that cannot support these requirements. Economic situations or a sense of responsibility may draw workers to government jobs, but unless the

technology environment changes, the next generation of workers will not perform well and will be highly dissatisfied. As a result, government agencies will lose access to this pool of talent.

Advice/Recommendations: Run high-speed connections (100 Mbps or better) to the desktop. Establish reasonable policies for Internet and instant messaging use. Investigate remote access and flexible access for mobile workers. Architect now for real-time government in the next three years. Involve employees in workplace design.

ITE Issue Scan Prediction: By 2008, more than half of the NATO/Australia, New Zealand and Unites States Treaty member nations and advanced military establishments of Asia will have begun network-centric initiatives aimed at transforming the sharing of defense information, situational awareness, force synchronization, interoperability and decision support (***0.8 probability***).

Key Findings:

- Between 2002 and 2004, there has been substantial and increasing defense investment worldwide in research and development for end-to-end integration of the cognitive, information and physical aspects of the network-enabled operations of defense enterprises.
- Military planners describe network-centric warfare (NCW) as increasing the combat power of a military force through the use of networking sensors, decision support systems and weapons systems to achieve shared awareness, increased speed of command, a higher tempo of operations, greater military effect, increased survivability and a higher degree of self-synchronization.

Implication: Military doctrine is being changed to reflect the convergence of military science and IT in what has been characterized by defense strategists as a "new way of war." Global competition among aerospace, defense, IT consulting and systems integration providers has accelerated as established players and new entrants fiercely compete for market share in this rapidly growing market. Northrop Grumman projected that this market will grow to $200 billion worldwide in 10 years. NCW provides the capability to connect diverse networks across an enterprise to rapidly exploit information and maximize military agility and speed. IT is now a war-fighting capability. During 2004 and 2005, NATO and several countries will have begun restructuring their defense establishments, shifting missions, organizations and resource priorities based on realized or anticipated transformation of capabilities. As defense organizations invest in NCW mission applications, business/administrative systems (also key to defense support operations) may suffer.

Advice/Recommendations: Public-sector and defense CIOs should collaborate closely with transformation directors and capability and force development planners to balance network-centric warfare and IT investment with other critical business/administrative support capabilities. Apply a balanced scorecard to portfolio management processes to ensure that the portfolio meets the war-fighting and support requirements of the enterprise.

ITE Issue Scan Prediction: By 2007, vendors will market a hybrid of a personal digital assistant (PDA), a tablet PC and a laptop PC to K-12 Education for less than $600 each (***0.7 probability***).

Key Findings:

- The form factor (including a screen that is three times the size of those of PDAs), mobility and price will be attractive to schools that want to provide every student and staff member with his or her own computing device.
- Twenty percent of the devices sold in the first year will be to education agencies and school-aged children.

Implications: Providing technology to students and staff will be an empty gesture unless the profession of teaching and curriculum is transformed to take advantage of it. This value proposition includes replacing traditional print materials (such as textbooks) with electronic versions. Teachers and staff need training and support to address curricular and technical issues. Administrators must develop business cases that incorporate descriptive models of the value of information technology to education.

Advice/Recommendations: Schools should not buy devices just to claim that their entire community is connected. Buy and use new devices if they enable an efficient, effective, economic way to deliver instruction and provide teachers and staff with the tools to manage the educational environment.

Bottom Line: Economic and political pressures are forcing governments to plan and work collaboratively. Technology can help, but politicians, agency managers and IT organizations must update policies and procedures to keep pace with technological changes.

Appendix 5. Department of Administrative Services Performance Plan For ITE-Related Services, Products, and Activities

Table 7. DAS-ITE Performance Plan

Reference Number and Name of Service, Product, or Activity	Performance Measures	Performance Target(s)	Strategies / Recommended Actions
1. Central Administration Budget Org: 1100, 1110, 1130, 1140 (Note: ITE provides support for the DAS Core and the CRM Program)	Improved Customer Satisfaction as measured by survey instrument.	Increase overall DAS customer satisfaction by 5.0% compared to the FY04 established baseline. On a 1-5 scales, the FY04 baseline is 3.56.	Institute Customer Relationship Management (CRM) program to improve DAS' interactions with its customers.
2. Information Security Budget Org: 1120	Improved Maturity Level of Enterprise Information Security across executive branch agencies.	Increase the Enterprise Information Security Maturity Level across executive branch agencies by 10%. The baseline maturity level is 3.3 on a 5 point scale and will be increased to at least 3.7.	Establish and communicate policies, standards and best practices. Coordinate risk and vulnerability assessments to assure adherence to policies, standards and best practices.
12. ITE Infrastructure Budget Org: 6100, 6150, 6300, 6310, 6320, 6330, 6340, 6350, 6360, 6370, 6380	Percent of time mainframe is available for customer usage.	99%	Establish procedures to minimize necessary downtime. Improve the physical environment of the hardware, such as HVAC systems and emergency power generation, for enhanced system availability.

Reference Number and Name of Service, Product, or Activity	Performance Measures	Performance Target(s)	Strategies / Recommended Actions
	Percent of time core server services are available for customer usage.	99%	Establish procedures to minimize necessary downtime. Improve the physical environment of the hardware, such as HVAC systems and emergency power generation, for enhanced system availability.
13. Enterprise Applications Budget Org: 6500	Percent of time I/3 server services are available for customer usage during business hours of 7:30 am to 5 pm Monday through Friday.	95%	Establish procedures to minimize necessary downtime. Improve the physical environment of the hardware, such as HVAC systems and emergency power generation, for enhanced system availability.
14. Application Development Budget Org: 6100, 6150, 6600, 6610, 6615, 6620, 6630	Percent of time application development deliverables are delivered within documented turnaround time limits. (Rev.11/1/04)	90%	Document and monitor document turnaround requirements to ensure compliance in meeting customer expectations. (Rev.11/1/04)

Appendix 6. Statutory Guidelines for Overseeing the Implementation of Utility Services

Excerpt from Iowa Acts, 80th General Assembly (2003), Chapter 145

Sec. 11. NEW SECTION. 8A.121 FINANCING DEPARTMENT SERVICES -- CUSTOMER COUNCILS.

1. The department shall establish a process by which the department shall determine which services provided by the department shall be funded by an appropriation to the department and which services shall be funded by the governmental entity receiving the service.

2. a. For services which the department determines shall be funded by the governmental entity receiving the service, the department shall establish a process for determining whether the department shall be the sole provider of the service or not.

b. If the department determines that it shall be the sole provider of a service, the department shall establish, by rule, a customer council responsible for overseeing departmental operations with regard to the service provided to ensure that the department meets the needs of affected governmental entities and the citizens those entities serve. The rules adopted shall provide, at a minimum, for the method of appointment of members to the council by governmental entities required to receive the service from the department and for the powers and duties of the council as it relates to the service provided, which shall include the authority of approving, on an annual basis, business plans submitted by the department for performance of the service, the procedure for resolving complaints concerning the service provided, and the procedure for setting rates for the service. In addition, if the service to be provided may also be provided to the judicial branch and legislative branch, then the rules shall provide that the chief justice of the supreme court and the legislative council may, in their discretion, each appoint a member to the applicable customer council.

3. Departmental processes required to be established pursuant to this section shall provide, at a minimum, for input from affected governmental entities as well as for a biennial review by the appropriate customer council of the decision made by the department that the department should be the sole provider of a service.

4. The department shall annually prepare a listing separately identifying services to be provided by the department and funded by an appropriation, services to be provided by the department and funded by the governmental entity receiving the service, and services which the department is authorized to provide but which governmental entities may provide on their own or obtain from another provider of the service.

Appendix 7. Employee Compensation and Benefits

Employee Compensation

Employee compensation is based on the bargaining unit status and pay plan assigned to the job classification. All employees not covered by the collective bargaining unit contract will be paid according to the pay plan established by the Iowa Legislature. Employees covered by the collective bargaining unit contract will be paid according to the pay plan established through contract negotiations between the State of Iowa and the American Federation of State, County, and Municipal Employees (AFSCME).

Employee Benefits

Beyond the paycheck, State of Iowa benefits-eligible employees receive the following benefits:

- **Health insurance** –the State pays 100% of the premium for single coverage and a portion of the premium for family coverage based on collective bargaining status.

- **Group life insurance**-- full time employees are provided basic life insurance and the State pays 100% of the premium. Coverage includes accidental death and dismemberment. Employees may purchase additional coverage.

- **Dental insurance**- the State pays 100% of the cost for single coverage and contributes the same dollar amount for family coverage.

- **Insurance premium conversion (pretax) program**- employees can pay health insurance, dental insurance and life insurance premiums with "pretax" dollars.

- **Long-term disability insurance**- State pays 100% of the premium, provides employees up to 60% base salary (offset by social security disability) and covers disability upon exhaustion of sick leave or 90 working days, whichever is greater.

- **Employee assistance program**- provides confidential and professional assistance to help employees resolve personal problems.

- **Flexible spending account**- allows employees to pay for certain health care and dependent care expenses on a "pretax" basis, which lowers federal and state taxes.

- **Wellness Program -** Education, organization and environmental activities designed to improve the health of employees and reduce health-related expenses.

- **Retirement plans**- the State offers a defined retirement plan contributed to by both the employee and State.

- **Deferred compensation**- to supplement retirement plans, the State matches employee contributions on a 1 to 2 basis up to a monthly maximum. There is a choice of investment providers and investment offerings.

- **Vacation/holiday/sick leave -** Employees earn vacation time based on their years of service. The vacation time accruals are as follows:

1-4 years of service	2 weeks (80 hours) per year
5-11 years of service	3 weeks (120 hours) per year
12-19 years of service	4 weeks (160 hours) per year
20-24 years of service	4.4 weeks (176 hours) per year
25 or more years of service	5 weeks (200 hours) per year

Note: You must be paid for 80 hours in a biweekly time period to accrue at these rates. Otherwise, your vacation accrual is prorated. Part-time employees earn prorated amounts of vacation based on the number of paid hours. Temporary employees (intermittent, emergency, intern, trainee, and seasonal status) do not earn vacation.

Full-time non-contract and AFSCME-covered employees accrue 12 hours of sick leave per month. Part-time employees accrue prorated amounts of vacation and sick leave based on the number of hours for which they are paid. Temporary employees (intermittent, emergency, seasonal, intern, and trainee status) do not earn sick leave. Non-contract and AFSCME-covered employees are able to use sick leave for medically related disabilities, personal illness, and personal medical and dental appointments. Additionally, they can use sick leave for time off for deaths in the immediate family, pallbearer service, care of immediate family members, and adoption.

State of Iowa employees who accrue vacation and sick leave are entitled nine (9) standard holidays per year. In addition, employees are entitled to two (2) unscheduled holidays per year.

- **Training**- training programs offer training and consulting services for employees. Over 150 courses are available in areas from computer skills to professional development.

- **Educational leave and financial assistance**- full or partial pay and educational assistance is available to assist employees in developing skills that will improve their ability to perform their job.

- **Workers compensation**- all State employees are covered by workers' compensation. All injuries or illnesses believed to be work-related must be reported. Benefits may include payment for lost work time and medical care. Sick leave, vacation or compensatory time may also be allowed to supplement lost time benefits.

- **Additional employee benefits –** These include direct deposit of employee paychecks, flexible work schedules, and free parking in most work locations.

The Iowa Department of Administrative Services-Human Resources Enterprise administers the state employee benefits.